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CARCINOMA OF THE PANCREAS:

WITH A CLINICAL REVIEW OF EIGHT CASES*

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SHREVEPORT

Carcinoma of the pancreas was first described by Mondiere in 1836 but little was added to the clinico-pathologic picture until recent years. A revival of interest in these tumors followed the first successful resection of the tail of the pancreas for hyperinsulinism due to islet tumors. Additional interest was noted when occasional reports of successful removal of malignant tumors were published.

Cancer of the pancreas accounts for between 1 and 2 per cent of all malignant tumors,[1] but this condition is more prevalent than these figures would lead one to believe. Between the years 1928 and 1930 cancer of the pancreas accounted for 4.8 per cent of all cancer deaths in the hospitals of Massachusetts.[2] Hoffman,[3] in 1931, reported that 4,000 deaths a year in the United States were due to carcinoma of the pancreas. Rivers found that approximately half of the men 40 years or more of age who came to the Mayo Clinic primarily because of dyspepsia had gastrointestinal or accessory gastrointestinal disease. Every sixth man of this group was found to have cancer of the stomach, pancreas or intestine.

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SYMPTOMATOLOGY

A lengthy discussion of the symptomatology and diagnosis of cancer of the pancreas is not warranted but a few timely points should be mentioned. Bard's and Pic's[4] description, in 1888, of the "pancreaticobiliare" syndrome of continuous painless jaundice, distended gallbladder, cachexia and weight loss is familiar to all; but we now know that painful jaundice is present in 76 per cent of these cases.[1] Chauffard's "pancreatico-solaire" syndrome, first described in 1908, comprises about 10 per cent[6] of all pancreatic carcinoma. Attacks of severe pain due to pressure of the tumor mass on nerves and blood vessels behind the pancreas are often diagnostic problems of considerable magnitude. In such cases jaundice and distention of the gallbladder are rare and terminal in nature.

The occurrence in a man at middle life of digestive disturbances, epigastric fullness and discomfort, pain and weight loss, warrants a thorough study by all available means. Complete roentgenologic examination of the gallbladder and gastrointestinal tract is indicated. By these studies a wide sweep of the duodenum around the head of the pancreas may be noted. The greater curvature of the stomach may be encroached on by an obviously extra-gastric lesion. Biliary drainage may demonstrate the presence of blood and suggest cancer of the pancreas. Blood may be persistently present in the stools of those cases in which the tumor has invaded the duodenum or stomach. Repeated studies for the possibil-

ity of an increase in serum bilirubin may reveal sufficient further evidence to warrant exploration of the upper part of the abdomen. Pancreatic duct obstruction due to an encroaching tumor mass may result in atrophy of the islet tissue and produce a clinical picture of mild diabetes mellitus.[7] Psychoneurosis or intestinal neurosis is a frequent diagnosis in cases of cancer of the pancreas.[8] Recently it has been observed in cases of obstructive jaundice due to stone that the initial average prothrombin concentration was much higher than in cases in which obstruction was due to carcinoma. The response to vitamin K therapy was more rapid, the dose smaller and the final preoperative prothrombin concentration was nearer normal in cases in which the obstruction was due to stone.[9]

TREATMENT

It must be recognized that abdominal exploration in cancer of the pancreas carries a mortality often quoted as high as 14 per cent. The average length of life after exploration is less than when no operative procedure is performed.[10] Postoperative hemorrhage is the greatest single cause of death in patients with obstructive jaundice, one-third of all postoperative deaths being attributable to this cause.[11] The fear of postoperative hemorrhage has handicapped the surgeon. Recent developments in the diagnosis and treatment of this hemorrhagic tendency should result in a marked diminution in hemorrhage as a postoperative complication and should open the field for a more radical surgical attack on neoplasms of the pancreas.

Although it is still a controversial question, some authorities believe that pancreatic malignancies are quite sensitive to radiation. Lahey[1] reports that regardless of the type of operative procedure, radiation therapy doubles the life expectancy. With added experience in this field it is felt that more can be offered to these patients in the future than has been in the past.

A number of palliative surgical procedures may be carried out for common duct obstruction due to cancer of the pancreas. If the gallbladder has not been removed at a previous operation, cholecystogastrostomy, cholecystoduodenostomy, cholecystojejunostomy, or cholecystostomy may be performed. In cases in which a cholecystectomy has been performed one is left with only two alternatives, either choledochoduodenostomy or simple drainage of the common duct with a T-tube. The procedure of choice depends upon the condition of the patient, the degree of dilatation of the common duct, and the accessibility and mobility of the descending portion of the duodenum. Cholecystogastrostomy is an undesirable surgical procedure, for often powerful gastric peristaltic waves force gastric contents into the smaller bile passages. The stomach wall is thick and has a loose redundant mucosa which makes accurate anastomosis to a stretched out thin-walled gallbladder difficult. One side of the sutured viscera is fixed and the other side moves with digestion or vomiting; hence, this suture line must be exposed at times to considerable strain.

Cholecystoduodenal anastomosis is also hazardous, for both structures are relatively fixed and accurate approximation is difficult. The rise and fall of the liver with diaphragmatic motion which at times is quite violent must jeopardize the security of this suture line.

By attaching the jejunum to the liver capsule at the time of the cholecystojejunostomy the objections to the two other procedures are overcome. This is the operative procedure of choice and the one most frequently employed at present.

An analysis of a large series of cases of cancer of the pancreas does not appear frequently. Although this series contains only eight cases, a few observations are worthy of comment.

DISCUSSION

The diagnosis was made in each case either from the operative findings, biopsy, or necropsy. The average age of these patients was 54 years, with a range from 43 to 65 years. Five of these cases were in the fifth decade. There were five men and three women.

The average duration of the disease before admission was three months, with a range from one to five months. It was not until severe pain, loss of weight, or jaundice appeared, that these patients came to the hospital. Loss of weight was recorded in six cases, the average amount being 26 pounds, with a range from 15 to 37 pounds. Pain was part of the presenting symptom in all patients, though a constant type and distribution were lacking. Jaundice was present in all cases with an average icterus index of 90 in the six cases in which determinations were made, the range being from 10 to 200. Clay colored stools were noted in five cases.

Abdominal tenderness was present in all cases, and muscular rigidity was conspicuously absent. In only one case was a palpable gallbladder noted. In only three of the cases was a palpable liver present at the time of admission, though at the time of operation or autopsy six of the eight cases showed a distended gallbladder and an enlarged liver. This cannot be attributed to a clinical error because of the interval of time between the date of admission and the latter observation.

Gastrointestinal roentgenograms were made in three cases, and were repeated in one case, and at no time were positive or suggestive findings noted. This is not in accord with clinical findings elsewhere where positive roentgenograms were noted in 76 per cent of the cases reported from one clinic.[1]

Duodenal drainage was done in only one case, with both bile and blood being obtained.

Fasting blood sugars were obtained in four cases with 155, 145, 125, 108 mgm. respectively. At necropsy the first case showed considerable atrophy of the pancreatic parenchyma probably due to pancreatic duct obstruction.

A cholecystojejunostomy was done in three cases, cholecystogastrostomy in one case, a cholecystectomy in one case and a simple abdominal exploration in the remaining case. The case in which cholecystectomy was performed showed innumerable gall stones. It is noteworthy that Walters[12] in a recent review of extra-hepatic surgery from Mayo Clinic states that he has never seen gall stones and primary pancreatic carcinoma in the same patient. All patients survived the operation and were uncomplicated by postoperative bleeding, even though the icterus index in four cases averaged 112 units. Prothrombin determinations were not performed. All of the patients had a progressive loss of jaundice following operation, with complete clearing of the skin or subclinical icterus occurring anywhere from 10 to 24 days postoperatively. The average length of life after operation was four months in the five cases that could be followed. Radiation therapy, though considered in one case, was not given.

CONCLUSIONS

1. Early diagnosis is paramount if life expectancy is to be increased.

2. Biliary drainage should be done on all cases of the middle aged, dyspeptic group.

3. Fasting blood sugar determinations are often of considerable diagnostic value.

4. Subclinical icterus values (9-13) are often sufficient added evidence to warrant exploration, especially if such are rising.

5. By the use of vitamin K and bile salts the postoperative mortality in obstructive jaundiced patients should be reduced by one-third. Though still in the experimental stage prothrombin determinations might aid in the diagnosis of the clinically obstructive jaundiced patient.

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DISCUSSION

Dr. Allan Eustis (New Orleans): When Dr. Drummond sent me his paper I thought at that time it was a very timely subject, but since he states that he has had three more cases since writing the paper, I am even more persuaded that it is timely. I looked over my records in the office since 1911, and found only three cases of primary carcinoma of the pancreas. I was always under the impression that it was a comparatively rare condition, but he has seen so many patients in such a short time, that I will have to alter my opinion.

There is not a great deal I can add, but I would like to elaborate on some of the points made. Dr. Drummond stated that 76 per cent of these patients with chronic jaundice had pain. I have forgotten the name of the man at The Mayo Clinic who claimed that chronic jaundice without pain is pathognomonic of pancreatic carcinoma. You may have pain with jaundice, but absence of pain with jaundice is more than suggestive of carcinoma of the pancreas, that is, chronic pronounced jaundice.

One other point is very important. I may have gotten the wrong impression, but he states that the mortality in persons who had exploratory laparotomy was 14 per cent, and that those not operated on live longer than those who are. I think probably he did not mean to advocate not exploring these patients, because as he goes on he mentions that the treatment is surgical. The importance of an exploratory operation is well exemplified in two cases I want to report.

The first case is that of Mrs. J. W., 68 years of age, with painless jaundice of two months' duration. I treated her in 1926 and saw her again in 1939. I treated her in 1926 for chronic cholecystitis and chronic pancreatitis. She had non-painful jaundice of two months' duration in 1939; I referred her to Dr. Urban Maes, who operated on her and found a distended gallbladder. The gallbladder was very large with thin walls. There was a large mass in the head of the pancreas, a mass of glands extending up and down the peritoneal space and a diagnosis of carcinoma of the pancreas was made. Cholecystojejunostomy was done, anastomosis being made in the first portion of the jejunum. She had no evidence of postoperative complications and was discharged on May 10. I heard from her about seven months ago; she had gained 25 pounds in weight and was in perfect health; no more jaundice, and has had no symptoms of any malignancy.

A case prior to this impressed upon me the importance of draining these gallbladders and not just closing up the abdomen. This case was one that I thought certainly had carcinoma of the head of the pancreas, but having seen this case in 1920 with Dr. Carroll Allen, I said, "Let's drain the gallbladder, maybe there is no malignancy." In 1920, she came with painless chronic jaundice. She had already been operated on in 1916 and her gallbladder drained. At that time, Dr. Allen and I decided not to remove the gallbladder although she had gallstones. She had again obstructive painless jaundice. We decided to wait a month. She came back in a month and Dr. Allen operated on October 6, 1920. Operation was through a high midline incision. Adhesions were encountered—to make a long story short—apparently there was a definite pancreatic carcinoma; the common duct was drained for several months. That woman is still alive today, without any jaundice and without any symptoms of carcinoma. So when you do an exploratory laparotomy, do a drainage of the gallbladder or common duct and do not just close the abdominal incision with the idea that the case is hopeless. There maybe a chronic fibrosis of the pancreas instead of a carcinoma.

Dr. Ambrose H. Storck (New Orleans): Both the essayist and Dr. Eustis have already indicated the need for surgical intervention in cases of carcinoma of the head of the pancreas. The unusually high survival rate in the group of cases presently reported is remarkable. The average mortality following exploration or performance of short circuiting operations for relief of the biliary obstruction caused by carcinoma of the head of the pancreas is usually about 14 per cent.

Several recent developments applicable in the management of such cases should result in a general lowering of the mortality near to that which was attained in the series of cases presented by Drs. Lloyd and Drummond. Ansbacher found that the synthetic substance, methylnaphthoquinone, has an action very similar to vitamin K; Macfie, Bacharach and Chance found that if this substance is given intramuscularly in corn oil, a lowering of prothrombin time as much as 48 per cent can be accomplished in eight hours. The demonstration of the effectiveness of this substance administered parenterally indicates the possibility of relieving the hemorrhagic diathesis present in cases of carcinoma of the head of the pancreas even in the presence of nausea, vomiting, or severe diarrhea. Andrus and Lard have very recently reported their experience with methylnaphthoquinone in the April 6 issue of the Journal of the American Medical Association.

Zollinger's method of performing a valvular cholecystgastrostomy is intended to prevent the undesirable regurgitation of stomach content into the gallbladder and biliary tree, an occurrence which so often vitiates the good results of cholecystgastrostomy. The procedure employed by the authors, that is, cholecystjejunostomy, may be preferable to

any type of cholecystgastrostomy or cholecystduodenostomy.

The report of Pack and McNeer concerning radiation therapy in the management of carcinoma of the head of the pancreas deserves consideration. These observers do not advocate dependence on radiation therapy alone but advise its use in conjunction with biopsy and abdominal exploration. Such a plan of therapy in their hands has been rewarded with better than average results.

Although radical extirpation of the carcinoma bearing portion of the pancreas has been reported, such a procedure is probably applicable only in occasional particularly good risk cases. Short circuiting operations in conjunction with adequate preoperative and postoperative care of patients with carcinoma of the head of the pancreas will probably remain as the operation of choice for some time to come.

The administration by mouth of pancreatic enzyme preparation to compensate for the deficiencies of these substances resulting from obstruction of the pancreatic duct is usually neglected. Especially in the instance of long standing biliary and pancreatic obstruction, such substitution therapy is of obvious value.

Dr. G. G. McHardy (New Orleans): It is only occasionally that one encounters carcinoma limited to the tail of the pancreas. Extremely rarely is a clinical diagnosis made due to the paucity of symptoms referable to pancreatic involvement and definite lack of what is called a "clinical syndrome." At Touro within the past eight months we had two patients studied peritoneoscopically and by this procedure made a prenecropsy diagnosis.

The first patient was a 46 year old woman who had complained so bitterly of "gas" that she was considered functional and wandered from Charity to Tulane to Touro and for six months prior to our study frequented the neuropsychiatric service. Investigation of her case revealed manifestations simulating steatorrhea with quite marked avitaminosis which did not respond to the usual measures. Peritoneoscopy revealed hepatic metastases. Six months later at autopsy, the primary lesion was found well localized in the pancreatic tail. Whether exploration earlier in the illness would have revealed the lesion and permitted curative resection is problematic.

The second case was an obese male with ascites. Peritoneoscopy revealed the omentum and peritoneum studded with neoplastic nodules. This clinical history was of only three weeks' duration. Certainly, an earlier diagnosis was not available.

We feel that as yet the facilities for making an early diagnosis of carcinoma of the pancreatic body and tail are not yet available.

Dr. W. F. Drummond (Shreveport): Dr. McHardy said that there was no typical symptomatology of carcinoma of the tail of the pancreas. Carcinoma of the tail of the pancreas occurs in approximately 10 per cent of all pancreatic cancer, and it does present a fairly typical clinical picture. In cases with only idiopathic steatorrhea, such occurs rather rarely; but a chronic idiopathic steatorrhea as part of the clinical picture will occur in something like 40 per cent of all carcinoma of the tail of the pancreas. As mentioned in the paper, Dr. McHardy's and other cases have frequently been called "intestinal neurosis."

I mentioned that 14 per cent was the mortality for abdominal operation. That has hindered the surgeon, but as Dr. Storck said, it is with vitamin K, and not koagamin which has been used erroneously by many men, that perhaps in the future the surgeon will attempt a resection of the pancreas in such cases. In none of our cases did we use vitamin K. It was not available at the time these cases came to our attention, but we had no mortality.

I seriously doubt the diagnosis in any case of carcinoma of the pancreas without biopsy, operated upon and diagnosed as cancer of the pancreas, that lives ten months. That is why our cases were reported as proved by operative biopsy or necropsy.

THE CAUSE AND PREVENTION OF THE LOSS OF TEETH*

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NEW ORLEANS

Practically all loss of teeth is the result of either caries or periodontoclasia. Often both diseases exist for a long time before a given tooth is finally lost from either. These diseases and the resulting loss of teeth are so prevalent that they are generally considered to be necessary and unavoidable burdens of life. Loss of teeth increases and advances so certainly as age advances, that it is generally considered, even by physicians and dentists, to be a part of the aging process and actually always to be expected, if one lives long enough. We are so accustomed to our own association of bad teeth, absence of teeth and the makeshift of artificial teeth, with advancing age, until we are hardly prepared to realize the fact that these conditions are entirely preventable and unnecessary at any age.

Even the physisian, who should be in better position than others, to realize the harmful effects of the loss of teeth upon

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health and comfort throughout life and actually upon the length of life itself, is usually quite indifferent and neglectful of the matter. Not only does he surely have periodontoclasia himself, and most likely caries also, from which he gradually loses his teeth as he grows older, but if he looks for it he finds the same condition in practically every adult patient he examines. He does nothing that effectively prevents the loss of his own teeth, or to help his patients save theirs.

Many a medical history includes such notations in the physical examination record as "oral hygiene poor, bad or very bad", so many "teeth absent." In most instances nothing further is said or done about it. Seldom does one find any record of the patient's being advised of the importance of the matter; nor is any such advice given. Neither is he instructed how to take care of his teeth and to save them against any further deterioration, or impressively informed that it can and should be done.

About all that a physician does for his patient concerning the health of his teeth is to refer him to the dentist. Physicians place about the same amount of blind faith in the ability and interest of the dentist to render the dental health services needed, as the layman is expected to place in him (the dentist). He does not venture to question the qualifications or disposition of the dentist, not only to diagnose and properly treat the damage that has already occurred, but especially to advise and help the patient to prevent any further progress of the deterioration of his teeth.

If the physician will only be a close observer in this regard and will allow himself to see what he sees, he will learn in most instances that the dentist, to whom he refers his patients or the one whom he consults for his own personal dental health service, is losing his own teeth from the very diseases for which treatment, and especially prevention, is needed by almost everybody. If the physician allows himself to think and to see, he will realize that he and his patients who are under the care, more or less, of their respective dentists, are surely losing their teeth, as the years go by, regardless of the fact that the usual advice to "see your dentist twice a year" is faithfully followed.

Casual observation of people as they talk and laugh reveals only the gross diseases and abnormalities of the teeth and the absence of some that have already been lost. More thorough examination reveals a much worse state of affairs than was thought. That is especially true with regard to periodontoclasia which is usually much more prevalent and much further advanced than either the casual observer or even the patient himself realizes.

Nowadays, in the special features at the picture shows, one sees and hears brief talks from a great many of the foremost people in private and in public life. It is impressive to note how many of them have perfectly obvious absence of a part of their teeth, diseases from which others will be lost, and artificial, often misfitting substitutes. I mention this to emphasize the fact that those who should be able to have every advantage available, do not now receive the dental health-service and information which are necessary to prevent the loss of teeth. The economic, cultural, educational and commanding environmental status of such people as I suggest places them in the best position to have the best dental health service available in the land. They are able to pay for it, they should appreciate the need, they should know what can be done and they are in a position to demand the best. If those who have every reason not to lose their teeth are doing so anyway, what can be expected for those who are in less advantageous position in this regard? The truth is that this deplorable situation with regard to oral health runs through all walks of life and that more or less disease and loss of teeth sooner or later afflicts practically all people. In most people it begins even before adult age is reached. To whatever extent these conditions have developed at any age, the unfortunate individual goes through the remainder of his life thus handicapped.

If all this is true, and it surely is, as to the almost universal prevalence of the conditions and as to the present extremely inadequate oral health service and oral health advice now available, then there is urgent need for an awakening to the situation and for steps to be taken to make available to all people correct information as to the cause of the loss of teeth and how it can be prevented.

The layman does not know why he loses his teeth. Often he thinks it is because he has "soft teeth", or bad teeth or just because it is natural for nearly everybody to lose them as the years go by. In many instances the other members of his family also have the same kind of so-called bad teeth and they all feel that there is nothing to do about it except to get dental repair work done from time to time and finally lose them all and get artificial teeth or have none, as the financial circumstances will permit.

Such woeful ignorance and blindness to the facts and the amazing gullibility of people in general for quack remedies, make this one of the most productive fields there is today for proprietary remedies and other nostrums. The harangue of high pressure sales talks and advertising of dentifrices (from "powder", to "paste", to "liquid") is to be heard over the radio every day and almost every hour of the day. Other channels of advertising are full of it too. All kinds of claims for superiority or of special benefits are made for each, when the truth is that one cannot save his teeth by the use of any such remedy, and further that he can save his teeth as well or better without using them. If these remedies did no other harm, the promotion of their use and the false claims made for them, lead to placing reliance in them and neglecting the care that is necessary to save the teeth.

It is a fact that some teeth are harder and more resistant to decay than others. Notwithstanding some variation in this regard in the teeth of different individuals, no tooth is soft enough to decay if it is kept clean. A clean tooth does not decay.

CARIES

Dental caries is caused entirely by the breaking down or decomposition of carbohydrate containing food retained on and between the teeth, by the action of aciduric bacteria. Such bacteria, as they grow in the mouth, produce acids in the same way as they do when grown in the test tube in culture media containing the same kind or similar carbohydrates. Such acids, when in sufficient concentration or strength, decalcify the tooth structure at that point. The enamel is very resistant and breaks down very slowly. After the lesion finally extends through the enamel, the underlying dentin yields rapidly. Once a cavity, however small, is produced, it affords a more favorable place for food to lodge and be retained and decompose, thus keeping up and accelerating the production of acids and further damage to the tooth. The decalcification and breaking down of the tooth structure now progresses more rapidly until the pulp is reached, infection rapidly progresses down the canal and the tooth is devitalized and finally lost in one way or another.

At this point I wish to call attention to a fundamental fact relative to the growth and production of acids by aciduric bacteria which must be recognized if one is to understand clearly the prevention of caries. When suitable culture media are inoculated with aciduric bacteria, the culture must be incubated for hours before sufficient growth and multiplication occurs to begin to produce appreciable acidity. Even milk inoculated with pure cultures of the different kinds of aciduric bacteria usually found in the flora of the mouth, begins to sour, only after a good many hours of incubation. Within twenty-four hours considerable acid has been produced. Readings on acid and gas production in such cultures in the laboratory are usually not taken until after a still longer period —sometimes several days. This means that all food (particles and solution) in which aciduric bacteria may grow and produce acids must be removed from the teeth and mouth at least as often as every twenty-four hours, to prevent caries. It should

be done at night before retiring. Then there follows a period of several hours before more food is taken the next morning. From the first meal of the day until time to clean the teeth again at night before retiring, is usually only twelve to fifteen hours—not long enough for harmful acid decomposition to occur. Cleaning the teeth and mouth of all food every night before retiring is all that is necessary entirely to prevent caries. Nothing less can be expected to do it.

PERIODONTOCLASIA

Recently I have employed a different technical method from that heretofore generally used for that purpose, in studying periodontoclasia. The method consists essentially of examining under the dissecting microscope, recently extracted teeth. Usually they are stained with a 1 per cent aqueous solution of safranin or some other suitable stain. This stains and brings out the remaining peridental membrane which is still attached to the root of the tooth, and, in a most impressive way, the bacterial film on the crown of the tooth and especially where it is heaviest near and just beneath the former gingival margin.

With suitable delicate instruments one can remove small amounts of this material from selected spots and make preparations for examination under high magnification. In this way only, can one fully realize and appreciate the large amount and the character of this film which is composed mostly of countless millions of micro-organisms, usually of many different kinds.

The specimen can now be cleaned off by brushing it well with an ordinary toothbrush. This removes the bacterial film and other loosely attached material but does not remove the peridental membrane. Quite vigorous brushing does not disturb it.

Such a previously stained and cleaned-off specimen is most satisfactory for examination under the dissecting microscope. Any one genuinely interested in studying the pathologic process of this disease should see such specimens for himself to realize their suitability for the purpose, especially for studying the early stages of periodontoclasia.

Periodontoclasia is due entirely to the irritation and inflammation at and beneath the gingival margin, caused by the mass of food particles, debris and principally bacteria, on the tooth. It begins between the teeth in most instances, where there is greater tendency for such material to accumulate and be retained. As the disease progresses and the tissues recede the space becomes larger and more favorable for accumulation and retention of the irritating material—and in larger quantity.

As the process progresses the lesions extend deeper and deeper until much of the tissues supporting the tooth have been destroyed, usually accompanied by suppuration (pyorrhea). But this is the far-advanced stage of the disease, and is relatively of little importance so far as prevention of the loss of teeth is concerned; for most of such teeth are finally lost, even if such treatment as is now available is applied.

The irritating material which causes periodontoclasia is constantly accumulating and being replaced. That present at any given time includes some food particles, debris and bacteria that have lodged and have been retained there for several days.

All that is necessary to prevent this disease and to stop its further progress (except perhaps for the most advanced lesions) is to remove this material sufficiently frequently. For this purpose, as in caries, cleaning of the teeth must be done at night before retiring. There follows a considerable period of freedom from the irritation by foreign material and rapid restoration of the tissues to normal occurs.

CLEANING THE TEETH

For practical purposes we may think of a tooth as presenting five different sides or surfaces for cleaning, viz: the grinding surface, the lingual surface, the buccal surface and two proximal surfaces between the teeth. One can quickly and easily clean the first three well by brushing with the ordinary toothbrush. He cannot clean the other two surfaces by any kind or amount or brushing. They can be cleaned only by

the proper use of dental floss. A piece of this material must be passed between the teeth and then drawn diagonally against the sides of each of them.

With practice and patience one soon learns to clean all of his teeth in this way. The brushing and the cleaning with dental floss should be followed by vigorous rinsing and forcing water back and forth between the teeth. One soon realizes that in this way he is able to maintain a better condition of oral hygiene than ever before. There is no further development of caries or periodontoclasia.

SUMMARY

1. Practically all people sooner or later lose part or all of their teeth from caries or periodontoclasia or both.

2. Dental health-service and advice available at the present time are woefully inadequate to protect people in any walk of life from these diseases.

3. Both of these diseases and the resulting loss of teeth can be entirely prevented by cleaning the teeth with the toothbrush and dental floss every night before retiring.

4. They cannot be prevented in any other way.

ADVANCED PATHOLOGY OF THE ESOPHAGUS*

REPORT OF A CASE

J. E. KNIGHTON, JR., M. D.
SHREVEPORT

Esophageal pathology includes many types of conditions, varying from the simple irritation caused by harsh food or bone, to the malignant neoplasm. Many of the lesser lesions pass almost without notice by the patient as well as the physician. Of the more important conditions, most are readily recognizable by the presently available methods of study, and the benign disorders usually respond quite well to properly selected therapeutic measures. The case to be reported illustrates the progression of a simple condition into one which presented interesting problems of diagnosis and of therapeusis.

*Read before the sixty-first annual meeting of the Louisiana State Medical Society, New Orleans, April 23, 1940.

CASE REPORT

The patient, a white male, 58 years of age, was seen on January 17, 1940, through the courtesy of Dr. D. W. Kennedy. Aside from factors related to the present illness, there was nothing of importance in the past clinical history. The family history revealed that one sister had died of carcinoma. The patient was married, and the father of two, both of whom are normal, healthy adults. Employed in the oil industry the patient had always done outdoor work, but his position does not call for heavy physical labor.

The onset of the present complaint was dated back about fifteen years. It was stated that dysphagia was first noted, in that material which was swallowed seemed to pass into the stomach with difficulty. There was very little pain, if any, associated with the act of eating, but a definite sensation of discomfort was experienced. Later, regurgitation of food became a prominent feature, and this has followed each meal for many years. There has been no nausea, and vomiting has been spontaneous and not projectile in type. Most frequently regurgitation occurred immediately after eating, often before a meal was completed, but at other times it was delayed for several hours. It was not unusual for regurgitation to occur directly after eating, then be repeated after an interval of time. The patient did not recall that food eaten on the previous day had ever been noted in the material which was vomited. There was no particular odor or marked sourness noted in the material. Liquids, even water, prompted regurgitation as readily as did solid foods.

Despite the loss of much food there had been no great diminution in weight, but physical strength was definitely below normal. The appetite was unimpaired, and there were no other complaints referable to the digestive tract. The nervous system had become unstable, and in an effort to control this condition tobacco and alcohol had been used excessively for several years.

General physical examination revealed a paucity of positive findings. The patient appeared somewhat undernourished, quite nervous and anxious. The skin and mucous surfaces presented moderate pallor. Arcus senilis was present, as was fairly marked sclerosis of the peripheral vessels. Artificial teeth were present, the pharynx normal, and no abnormalities noted about the neck. The chest was full, with a fair degree of expansion, but the percussion note and breath sounds suggested the presence of emphysema. No other abnormalities were noted. The heart presented no enlargement, irregularity, or murmur, but the rate was accelerated to 100 per minute.

The blood pressure was within normal limits. Examination of the abdomen revealed no palpable organs or masses, and there was no tenderness or rigidity. The prostatic and rectal examinations were negative except for the presence of a rigid anal sphincter. The extremities were normal.

The laboratory reported normal findings for urinalysis, white and differential counts, and only a very slight secondary anemia. Blood Wassermann and Kline tests were negative.

The findings justified a controversial diagnosis of esophageal diverticulum versus cardiospasm, and the patient was referred for radiographic study. This procedure, carried out by Dr. O. O. Jones, revealed findings which were quite difficult to explain. In its upper portion, at the level

Fig. 1. Showing kink in upper esophagus at level of manubrium sternii.

of the manubrium sternii, the esophagus was seen to be sharply angulated to the right. Below this it opened into a large pouch which extended downward, through the diaphragm into the upper left quadrant of the abdomen, where it emptied into the stomach. The junction with the stomach was at a point well below the diaphragm and midway between the spine and the lateral wall. At its lower end the pouch was sharply cut off, being released at intervals to allow the passage of the barium meal. There were markings simulating gastric rugae in the pouch, and there appeared to be peristaltic waves in its wall, but these could not be followed throughout the length of the structure. The constriction at the lower end

Fig. 2. Showing extensive dilatation of esophagus. Note suggestion of peristaltic waves, and appearance at lower end simulating a pylorus and cap. Normal stomach below.

presented identically the appearance of a pylorus, below which the barium was seen to spread out into an area resembling a cap. From this point the opaque material dropped into the fundus of an entirely normal stomach, and the remaining portions of the gastrointestinal tract were found to be devoid of any abnormality. There was a small six hour retention in the thoracic pouch.

This examination suggested the startling possibility that the patient might have an accessory stomach. Certainly the outline and general contour of the structure resembled that of a stomach with the lower end directed to the left instead of to the right. The constriction at the lower end with the clear cut separation of the barium, and its periodic release to allow passage of barium was indicative of the presence of a muscular sphincter such as the pylorus. Then with the suggestion of a cap, the presence of peristaltic waves and rugal patterns it would seem certain that such a condition was present. Furthermore the findings coincided well with textbook descrip-

tions in that one "stomach" was partially in the thorax, one was smaller than the other, and there was obviously an abnormal opening in the diaphragm which might be considered a diaphragmatic hernia. Yet the rarity of multiple stomach would not let me accept what seemed obvious. The literature contains reports of many types of anomalies of the stomach, and of intrathoracic cysts containing gastric mucosa, but I have found only one report of double stomach.[1]

It was not until this stage of the examination had been reached that, upon closer questioning regarding past history, it was learned the patient had at one time consulted Dr. Knighton, Sr. This record, under date of June 19, 1912, listed dysphagia as the chief symptom. This complaint had been noted for several months, but there had been no regurgitation. General examination was negative, a diagnosis of cardiospasm was made and anti-spasmodics were prescribed. A large bougie was passed without difficulty. In September, 1913, the patient returned, stating that he had been having the same trouble and that at times nothing could be swallowed. Again examination was negative, and an Ewald test meal was given. After one hour a stomach tube was introduced, but only bloody mucus was obtained. The note on the record expressed doubt that the tube entered the stomach. Radiography of the stomach was then undertaken, and the note reads as follows, "Bismuth meal given and x-ray picture made immediately afterwards. The bismuth had passed promptly into the stomach showing that organ to be normal in size, shape, and location. No bismuth shown in esophagus." He was not seen again, nor did he report by mail.

These findings on the record in 1912-13 were strongly against a diagnosis of accessory stomach, for, of course, this would have been a congenital structure. Even without the benefit of fluoroscopy, and recognizing the inadequacy of radiographic equipment of that time, this report seemed acceptable.

It was felt that chemical studies might definitely answer the question, and the patient was hospitalized. On the first morning after lavage of the upper pouch, using an Einhorn tube, an alcohol test meal was introduced.

Fractional examination gave the following results:

Time minutes	Free HCl	Total acidity
15	0	10
30	0	15
60	0	27
75	0	25

On a second morning the fasting state showed secretions in the upper pouch, the quantity of which measured 120 c. c. This material was clear and had a high content of mucus. Titration revealed no free hydrochloric acid, but total acidity was measured at 25°, and lactic acid was present. After ether extraction of lactic acid the total acidity was reduced from 25 to 18 degrees. Following this aspiration an Ewald test meal was given, and withdrawn after one hour. Titration revealed total acid of 6°, and no free hydrochloric acid. Lactic acid was present, but in less amount than in the fasting specimen.

On another morning tubes were introduced into the upper pouch and the stomach proper simultaneously, and their positions verified by x-ray. Aspiration was done to empty the structures, after which histamine acid phosphate (50 mg.) was given parenterally. Fractional withdrawal of the secretions revealed the following titration figures.

UPPER POUCH

Time minutes	Free HCl	Total acidity
15	0	3.0
30	0	7.0
45	0	6.4
60	0	8.0
80	0	6.0

STOMACH

Time minutes	Free HCl	Total acidity
15	45.5	57.9
30	95	125.0
45	56	66.0
60	35	48.0
80	46	70.0

It was further noted that the secretions from the upper pouch exerted no digestive action upon egg albumin, while digestion by the gastric secretions was normal.

These examinations indicate quite clearly that the lining of the upper pouch does not contain cells such as are found in gastric mucosa. The acidity present in the upper pouch is evidently due to organic acids as a result of stagnation and fermentation, for the acidity of the fasting residual was always higher than in the samples after lavage and the introduction of secretory stimulants.

DISCUSSION OF FINDINGS

Being convinced that the condition was one of cardiospasm of long standing with secondary, though massive, dilatation of the esophagus, the foremost problem became that of therapy. Because of the dilatation and, presumably, thinning of the esophageal wall, it was thought best to withhold tubes and bougies with the attendant danger of perforation. Esophagoscopy was likewise not requested. The patient was kept at rest with simple sedatives and a bland diet, and reported definite improvement in his feelings. Regurgitation, however, continued daily. After two weeks the patient lost his optimism and his physician, too, was near the point of recommending surgery. The

operation under consideration was gastrostomy, with retrograde dilatation of the cardia. A careful attempt at bouginage was decided upon before resorting to surgery, and the Hurst mercury-filled bougies selected. Using the size 36 French, and under fluoroscopic control it was found that by having the patient lean to the right the bougie passed the angulated esophagus in the region of the manubrium, without difficulty. Then by having him lean to the left as the bougie progressed it avoided the dependent part above the right diaphragm, and by its weight continued toward the cardia. At this point there was a delay of about a minute after which time the bougie accomplished the dilatation and passed into the stomach. On the following morning the same bougie was introduced with less delay at the cardia, and was followed by the size 40 French. On successive days the 46 French and 52 French bougies were employed, and the larger of these was continued daily for several days, then with intervals of three to five days. It was found that if used regularly this bougie could be passed without difficulty, but after an interval of a few days there would be an appreciable delay at the cardia. It was obvious that more complete divulsion of the cardia was necessary. The old hydrostatic dilator was definitely contraindicated in this case because of its rigidity, but the pneumatic dilator designed by Drs. Browne and McHardy was found to be ideal. Because of its flexibility and its mercury weighted construction this instrument could be guided by posture in its descent, and directed to the proper point. Dilatation was carried out at weekly intervals using a pressure of twelve to fifteen pounds, and three successive treatments were given.

Results of treatment have been quite gratifying. Since the third introduction of the Hurst bougies there has been no regurgitation of food, and since the use of the pneumatic dilator even the feeling of tightness and of hindrance to the passage of food has disappeared. Nearly a month has passed without any instrumentation, and the patient states that he does not remember when he felt so well. In addition to the dilatations, treatment has included a preparation of ferrous sulphate and thiamin chloride, and a non-irritating, but sufficient, diet. Despite the fact that there had been no great loss of weight the patient has gained 25 pounds since the institution of treatment.

Fluoroscopic observation of the upper alimentary tract was repeated on April 15, 1940, and changes were observed which were truly unexpected. The angulation in the upper esophagus had disappeared, allowing straight descent of the barium. The esophagus just above the diaphragm was about half as large in diameter as it had been previously, and the portion below the diaphragm appeared almost normal in size. Of greatest importance, there was very little stagnation of the barium above the cardia, and in less than five minutes the esophagus was almost empty.

CONCLUSION

The future for the patient, whose case history has been recorded, is quite bright, and he is most grateful for relief which might have been afforded years ago had he not failed to return for treatment.

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DISCUSSION

Dr. Daniel N. Silverman (New Orleans): I think Dr. Knighton has presented a clinical case which is certainly a complete study of this individual with esophageal disease. He had expert opportunity of studying the case through his father's record 28 years before, as he mentioned. The only case I have seen so greatly dilated, containing so much material, was a patient of the late Dr. Frank Smithies, in his clinic, in 1924, where the esophagus contained about 2000 c. c. and they had a label around this man's identification card, "In case of my death, my body belongs to Dr. Frank Smithies."

Esophageal disease, including cardiospasm, is not frequently enough recognized, and very often due to our own fault. It is unpardonable when an individual who complains of gastric distress and indigestion, is sent to the radiologist for a G. I. series, and we do not ask for an esophageal study. What I mean is that we should ask that the esophagus be examined in detail, with substances that are heavier than barium mixture, the esophagus

will be outlined and lesions can be detected in the esophagus not commonly observed in the ordinary G. I. series.

More lesions of the esophagus of a serious nature, such as malignancy, are seen today in younger individuals than ever before; carcinoma of the esophagus in individuals not thirty years old is not rare.

Esophageal disease may give referred symptoms to the stomach, or even to the lower abdomen; rarely, however, but not infrequently to the epigastrium. Just recently, epigastric distress was found to be caused by a diverticulum of the esophagus, as far up as the hyoid level. It is never truly diagnostic to say an individual has a particular disease of the esophagus unless that individual has been esophagoscoped. A mere spasm under the fluoroscope might under the esophagoscope be revealed as a reflex symptom or sign of a lesion in that esophagus, such as a peptic ulcer, which, although not common, is seen from time to time in the lower esophagus. On the other hand, a filling defect, such as an ulcer, may be seen in the esophagus under esophageal examination, and removal of a section may reveal that an apparently benign ulcer is a carcinoma of the esophagus. When we have a case of cardiospasm, the esophagus must be dilated forcefully, and it is best to use a pneumatic dilator, in order to cure the patient of the cardiospasm.

The one important point is that we should look more carefully for esophageal disease in more cases of gastrointestinal disturbances.

Dr. Philip J. Bayon (New Orleans): I think it is very unkind to tell someone who has caught a large fish that you have seen one just as large. I had occasion recently to see a dilated esophagus about as large as that of Dr. Knighton's patient—it was a little larger. The patient had most of the symptoms that were present in this case. She had been to a large clinic in Philadelphia where she received the usual dilatations of the esophagus and had also been tried on the Hurst mercury-filled bougie. She would experience a little relief for a few days, then revert to her original condition. We aspirated 1500 c. c. of turbid fluid from the dilated esophagus, examined the esophagus esophagoscopically, and dilated the esophagus with bougies, following which, the Hurst bougie was used. Since she did not improve, Dr. Ochsner was asked to see her and he performed an esophagogastrostomy. This was six months ago. About six weeks ago, she was seen again and examined esophagoscopically, and has had so far satisfactory results.

She did not receive thiamin chloride. I was very happy to hear Dr. Knighton mention that his patient had received thiamin chloride. In a series of six patients whom I have under observation, I have used thiamin chloride in two. Those two did not respond to the usual methods of dilatation. They did respond after using thiamin chloride, and I should like to ask Dr. Knighton if he has other cases with cardiospasm in which he has used thiamin chloride routinely, and with what result?

I think it is unfortunate that the esophagoscope was not passed into the esophagus, because it might have been interesting to determine whether the folds which have been shown roentgenographically might not have been folds of a dilated esophageal pouch. The color of the mucosa might have been of some value in determining whether it was stomach or esophagus. Generally, the color of the esophagus is in marked contrast to the color of the stomach.

Dr. W. A. Dial (Baton Rouge): I would like to ask Dr. Knighton if he tried sympathetic block on the patient.

Dr. J. E. Knighton (In conclusion): In answer to Dr. Dial's question, we did not use any, not even minor surgery, in this case.

Regarding Dr. Bayon's fish story, the one with the smaller fish can always say his dried out before being weighed. We never did fill up this pouch; he would take three glasses of barium mixture, and we thought that enough. This case was the largest I have ever seen.

Regarding the thiamin chloride, I do not recall that I have given it to any other patient with cardiospasm, but I think along the lines Dr. Bayon suggests, I will. It deserves thorough trial and I know it helped this individual.

I appreciate Dr. Silverman's comments. He is entirely right in saying that esophagoscopy should have been done. We recognize the fact that it probably would have answered the question, by direct observation of the mucous membrane, as to whether it was gastric or esophageal, but we were afraid to introduce anything with any degree of rigidity as we could not help but feel that this pouch was quite thin. From his recovery, it must have had more residual strength than we anticipated.

This man could have had a peptic ulcer in the lower esophagus many years ago. It may be my optimism, but I do not think he has now. Certainly, with the tenacity that this condition exerted over this long period of years, it would suggest something unusual as a cause, unless we accept the usual concept that it is a neurogenic condition.

This case emphasizes another thing to me also, the importance of the clinical history and record. I was very glad to find that old record made by my father for this particular individual.

IMMUNIZATION AGAINST DISEASE IN INFANTS AND CHILDREN*

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It has been said that he who cures diseases may be the most skillful, but he who prevents disease is the safest physician. It is known that some diseases of infants and children may now be prevented by immunization, and every physician must know what diseases can be prevented and at what time of life the immunizations must be given. In this paper I will outline some of the procedures, what preparations to use and at what age they should be administered.

It is well to note that the age of a child exerts a controlling influence on susceptibility to some diseases, and susceptibility is a necessary factor when considering the administration of an immunizing agent. It is generally known that infants are susceptible to whooping cough, chickenpox, and smallpox from birth, and that they are not susceptible to or possess some immunity against diphtheria, scarlet fever, and measles, probably up to six months and possibly throughout the first year of life.

It is for these reasons that early immunization against whooping cough and smallpox is desirable and that immunization against diphtheria may be postponed until the latter part of the first year.

WHOOPING COUGH

It is more likely that an infant will be exposed to whooping cough than smallpox, so my first immunization procedure is against whooping cough which is done at five or six months of age.

There is no test for immunity against whooping cough. Until other means of proving immunity against whooping cough have been perfected, exposure remains the ultimate test. There are two preparations used for active immunization against whooping cough: Sauer's vaccine and Kruger's endo-antigen, or Kruger's undenatured bacterial antigen.

In a controlled study of pertussis prophylaxis, Singer-Brooks, found that in 95 children injected with an undenatured bacterial antigen, 34 were exposed and 28, or 29.4 per cent of the 95, developed whooping cough. In a second group of 272 children injected with phase 1 *Haemophilus pertussis* vaccine, or Sauer's vaccine, 42 were exposed and only seven, or 2.5 per cent of the 272, developed whooping cough. Along with these series, 256 children were used as controls of which 71 were exposed and 62, or 24.2 per cent, developed pertussis. From this study actually more children developed whooping cough who had the undenatured bacterial antigen than those of the control group; however, Singer-Brooks admits that these series should have further observation and study. It is evident that, of the two immunizing agents, Sauer's vaccine offers the better results.

There are two strengths of Sauer's vaccine, single and double. The single strength contains 10,000 million killed pertussis bacilli per c. c., and the double strength contains 20,000 million killed pertussis bacilli per c. c. Both are prepared from several recently isolated strains of pertussis bacilli tested for phase I characteristic. If the single strength is used, the following procedure is followed: One c. c., or 10,000 million pertussis bacilli, is given in the upper deltoid region of both arms, two injections at one time. One week later 1.5 c. c. is given in the biceps region of both arms, and still another week later, 1.5 c. c. is given in the triceps region of both arms. Thus in three weeks six doses, containing 80,000 million pertussis bacilli, are given.

For children over two years of age an increased amount of vaccine must be given. The dose in these cases is 1 c. c. in each arm at the first dose; 2 c. c. in each arm for the second and third doses, giving a total of 100,000 million bacilli.

If the double strength Sauer's vaccine is used, the procedure is as follows: A single injection at weekly intervals is given, using first 1 c. c., or 20,000 million pertussis

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bacilli, in the deltoid region of the left arm, second injection of 2 c. c. in the deltoid region of the right arm, and the third injection, one week later, of 2 c. c. in the triceps region of the left arm. Thus, in three weeks, 100,000 million pertussis bacilli have been given. For immunizing children over two years of age with the double strength Sauer's vaccine, single doses of 2 c. c. at intervals of one to two weeks are administered, giving a total of 120,000 million bacilli.

The local and systemic reactions are usually quite mild. Parents should be told that there may be a transient rise in temperature with malaise, but this should not be of any consequence. The local reaction, such as tenderness, redness and induration, are practically never severe enough to postpone subsequent injections. A movable subcutaneous nodule may persist for a few weeks. Infections of the skin are most rare. Sauer believes that sufficient immunity is not obtained until four months after the vaccine is given. In spite of the pros and cons as to pertussis immunization, it is far easier to prevent whooping cough than it is to influence its course after actual exposure has already occurred.

DIPHTHERIA

The specific test of susceptibility to diphtheria is the Schick test. The test is done by injecting intradermally 0.1 c. c. diphtheria toxin diluted in normal saline, in the inner aspect of the forearm. The reaction is read in 48 to 72 hours. If the area of redness is 0.5 cm. or larger in diameter the test is positive and the child is susceptible to diphtheria. Pseudo reactions may occur but usually only in hypersensitive or allergic children, especially if they have been previously immunized.

A large proportion of children during the last half of the first year of age are susceptible to diphtheria and may be immunized without prior Schick test. Older children, specially those over four years of age are more prone to exhibit unpleasant reactions after immunizing injections; therefore only known susceptibles as determined by the Schick test should be immunized. The Schick test routinely should be made six months after active immunization to determine the establishment of immunity. Immunization should begin at nine months of age.

Several preparations are recommended for the active immunization against diphtheria. Of these for the infant, plain toxoid and alum precipitated toxoid, and for the older child a toxin-antitoxin mixture. These are of proved value. More recently a preparation containing both diphtheria and tetanus toxoid has been used with gratifying results. If the plain toxoid is used, two injections of 1 c.c. each are given with an intervening period of three weeks. If the alum precipitated toxoid is used, 1 c.c. is given with an interval of one month, while some have advocated an interval of two months between injections. If the combined tetanus and diphtheria toxoid is used, two injections of 1 c.c. each are given with an interval of three months. All three of these methods are accepted and are of proved value.

The results of active immunization against diphtheria with toxoid are so encouraging that it can be hoped that diphtheria may be one of the avoidable diseases. Active immunization is harmless. The toxoid must be absolutely reliable and sterile and the injection has to be performed with asepsis. For the child who is exposed to diphtheria and who has not been immunized, or who does not possess a negative Schick reaction, 1000 to 2000 units of diphtheria antitoxin should be gixen. This passive immunity lasts only two to three weeks. Thereafter a Schick test or, depending on the age, toxoid should be given, and at the proper time the patient should be Schick tested again. In cases of exposure to diphtheria, toxoid is of no value and should not be given.

There is possibly some danger in giving toxoid after exposure, because after toxoid injection there is probably a so-called "inactive phase" (Griffith-Mitchell) in which there is increased susceptibility to diphtheria and this should lead to caution in immunization during epidemics.

TETANUS

Until the past few years only a temporary active immunity against tetanus was available—that by giving, at the time of exposure by a wound, 1500 or more units of tetanus antitoxin. Now there is a tetanus toxoid for immunizing against tetanus, which is of proved value. Tetanus toxoid may be administered in three doses of 0.5, 1 c.c. and 1 c.c. at weekly intervals. This may be administered between the second and fifth year. Cook and others have advocated the use of a combined diphtheria and tetanus toxoid for the early immunization against tetanus. Jones and Moss noted the antitoxin potency of the blood following such a procedure was quite low, averaging .06 units per c. c. a year later. They advised therefore giving a second stimulating dose of tetanus toxoid which increased the antitoxin content of the blood 20 to 50 times which is higher and more persistent than that produced by a prophylactic injection of 1500 units of tetanus antitoxin. There is no practical test for immunity against tetanus.

Routine procedure in producing active immunization against tetanus and diphtheria consists of administering a preparation of combined alum precipitated diphtheria and tetanus toxoid at nine and 12 months, giving 1 c.c. at each injection. If the child later incurs a suspicious penetrating or lacerating wound, another dose of tetanus toxoid is given. This is a second stimulating dose of toxoid which produces a high and lasting antitoxin content of the blood. Tetanus toxoid may be repeated each time protection against tetanus is needed. This procedure eliminates the possibility of serum reaction seen at times after administering tetanus antitoxin.

SMALLPOX

There is no test for susceptibility to smallpox, although a reaction of immunity following vaccination is sufficient evidence of immunity if there is a history of a previous successful vaccination or "vaccinia" and objective evidence of an old vaccination scar.

In active immunization, calf vaccine smallpox virus is used by scarification, although others as chorio-allantoic chick embryo vaccine and lyophil tissue vaccine have been recommended; the latter is used intracutaneously. This is particularly useful when children with skin diseases require vaccination.

Vaccination can be done as early as three to six months, however I prefer waiting until after the first year, probably at fifteen months of age. As to the technic of the vaccination, the best method is multiple pressure or acupuncture. The skin (arm or leg) is cleansed with soap and water without much friction, then acetone or ether may be used, and allowed to dry thoroughly. A small drop of virus is placed on the skin and twenty or more punctures, or firm pressures, are made through the drop of virus, with a sterile needle held almost parallel to the skin. The punctures should be confined to an area of one-eighth inch in diameter and should not be deep enough to draw blood. The virus may be allowed to dry somewhat, but it may be wiped off immediately. No dressing is necessary; however, I usually cover the area with a dry dressing. About the third or fourth day after vaccination, one or more papules appear at the site of vaccination; enlarging, a vesicle forms and umbilication develops and then the seventh day it is surrounded by a red and swollen area which extends as the lesion advances, reaching the maximum about the ninth or tenth day. Then the vesicle dries and leaves a crust. This is an excellent protective covering and should not be removed. This type of reaction is recorded as "vaccinia." If there is no reaction or "take" this is due either to an impotent virus or faulty technic. The vaccination should be repeated with a new potent virus and with improved technic.

There are two other reactions to vaccinations which are seen in older children, which should be mentioned in this connection. If a child is vaccinated who has had an attack of smallpox or who has had a successful initial vaccination and has lost a considerable degree of immunity acquired

thereby, there will result a "take" which is less severe than the primary vaccinia and much more rapid in progress, completing the vesiculation and crusting in from four to eight days. This type of reaction is "vaccinoid." The other reaction is seen in older children who have had an attack of smallpox or successful primary vaccinia in which there is a high degree of immunity. In this reaction the maximum degree of redness is reached in from 12 to 72 hours after vaccination, slight elevation of the skin and some itching, but there is no vesiculation. This type of reaction is an "immune reaction."

SUMMARY

The procedures as offered in this paper are those I use in the routine immunizations. The following is my schedule: At five or six months of age—Sauer's vaccine; from nine to 12 months—combined alum precipitated diphtheria and tetanus toxoid; at 15 months—Schick test; at 15 months—smallpox vaccination. This schedule fits in very nicely in the general care of the infant and has proved very satisfactory in my practice.

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DISCUSSION

Dr. Julian Graubarth (New Orleans): Dr. White has given us an excellent plan for the immunization procedures in childhood, and I am sure, due to the short time, was not able to include a lot of the points he might have emphasized.

One point I would like to emphasize is the importance of the Schick test. The Schick test should be done, of course, as a follow-up to the diphtheria immunization, and should be repeated every year until the child has gone to school for several years, for the reason that many children lose their immunity even though they have had a negative Schick test. They used to teach that a negative Schick test always meant a permanent immunity but we now know that that is incorrect. Another point that might be mentioned here is that it has been suggested by some workers it is better to give a stimulating dose of diphtheria toxoid each year rather than to repeat the Schick test. However, this has not been universally accepted.

A word about the vaccination against smallpox: Dr. White mentioned that it is very advantageous to vaccinate before six months of age and I would like to emphasize that the scratch reflex has not appeared and of course that is very important, as the older child might start to scratch and as a result a secondary infection may follow. If vaccination is done before any of the immunization procedures there is a heterophile reaction in the blood and that produces a higher degree of antibodies production for the later immunization procedures.

Dr. White mentioned that there is no test for immunity against smallpox. Among the reactions there is such a test, for if one vaccinates a person who is immune that person will react as an immune reaction. Oftentimes, one gets another reaction such as if one uses a virus that is rather weak or about ready to give up its potency, and such a reaction will fade out in a few days after the vaccination commences to take. This reaction is classified as a weak virus reaction and the vaccination must be repeated.

Now as to the length of immunity to smallpox vaccination; the law says that we should revaccinate every seven years. It has been shown by the work of Rosenow in Boston, in a careful study of a series of cases, that vaccination may last a lifetime and this was proved by the reaction of immunity. Of course during an epidemic of smallpox one should be revaccinated regardless of the history of a take and no doubt for safety it is advisable to revaccinate at least every five or seven years.

As to the technic of vaccination, several years ago, Friedman of Boston developed a scarifier which produces a very small scar and is especially useful in the struggling child.

Another immunization procedure is typhoid vaccination. Regardless of where we live, there is always a case or two of typhoid fever, and here in New Orleans we had quite an epidemic, rather we had more cases than we should have had, and routine immunization against typhoid should, therefore, be recommended. It is especially desir-

able for the children who are attending summer camps and making trips. The time to start the typhoid vaccination is at two years of age. I recommend that each year following the child receive one stimulating dose of typhoid vaccine.

Dr. James E. Bailey (New Orleans): I have felt for some time that probably the European method of vaccination against smallpox, before six months, is well worth consideration as a routine procedure in this country. Dr. Graubarth has called our attention to the fact that the scratch reflex has not developed and that removes one hazard. The systemic and local reaction is also less and the cases of post-vaccinal encephalitis occasionally encountered are found in the older group.

The question of whooping cough immunization is one that should be brought to the attention of the general public a great deal more than it has been. Time was a few years ago when we had to suggest, and even urge, that parents bring their children in for diphtheria immunization but today they come in with the child asking for immunization. In the City of New Orleans, through the intensified efforts of certain agencies and the work of private physicians, we have been able to reduce the mortality on diphtheria to less than 50 per cent of what it was only five years ago. It has been my custom to immunize against whooping cough at the earlier age, as has been Dr. White's practice. That would seem to be indicated from the fact that in 1937, throughout the United States, the mortality in whooping cough was 15 per cent greater then the combined mortality from diphtheria and scarlet fever, not to mention tuberculosis, and asthma, that follow in the wake of whooping cough. I use the earlier age for immunization against whooping cough always, except in one instance, and that is where the child under one year is going out to a rural section where medical facilities are not easily available and where there is no opportunity for rapid bacteriologic investigation. In diphtheria the one dose, I believe, is insufficient. It is better to give two, or even three doses, depending on the age of the child.

The burden of responsibility for immunization will ultimately fall upon the physician. Your chief responsibility is to sell the idea to the parents and that is especially true of whooping cough immunization. If you do not, they will string along, procrastinate until something happens and then will say, "Why didn't you tell us?" I have made it a rule to place on the diet list the question: "Has your child been immunized against smallpox, diphtheria and whooping cough?" Suggest to them in some way the necessity for immunization.

We should impress upon the parents that one dose, or even two doses of diphtheria toxoid, is not going to confer immunity in 100 per cent of the cases, which so many seem to believe. They have the idea if the child gets one or two doses of toxoid that child can go on safely and will never be menaced by the scourge of diphtheria. Insist on the Schick test.

Dr. H. Aubrey White (In conclusion): I do not believe Sauer's vaccine is the answer to whooping cough immunization, but it is the best we have today. I think whooping cough is one of the most serious diseases of infants, and I believe it is far easier to prevent than to influence its course after it has once begun.

In writing this paper, I was interested in the subject of tetanus. I was talking to a friend of mine the other day and told him I was going to bring in immunization against tetanus, and he said, "Getting right down to facts, say a child will stick a nail in his foot, would you feel safe to give a second stimulating dose of tetanus toxoid or give tetanus antitoxin?" I said that I would give a second stimulating dose. I looked up the figures and the maximum protection 3000 units of tetanus antitoxin will give is 0.1 to 0.25 units of the antitoxin contents of the blood. A second stimulating dose, after having given the first stimulating dose in infancy, will give a higher antitoxin content, so it is certain that it is of great value and will prevent tetanus at that time. As an admission of its value, the French army was begun to be immunized regularly by this method in 1936 and good results are obtained from first a stimulating dose of toxoid and at the time of injury a second stimulating dose, which gives a very high antitoxin content of blood.

RHEUMATIC INFECTION IN CHILDREN IN THE DEEP SOUTH*

JAMES EDWIN BAILEY, M. D.†
NEW ORLEANS

Rheumatic infection in children in the deep South does not bring the perennial havoc commonly seen in other sections of the United States. This is true because it is not as widely prevalent in this section and for the additional reason that the course and termination is entirely different from the form encountered elsewhere. Notwithstanding the relative infrequency of juvenile rheumatic infection in this particular area, this discussion seems justified because of its apparent increase, totally different manifestations and prolonged

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course. Another reason for this comment is found in that group of children showing definite signs of early or subacute rheumatic disease. This group is made up of children who are underweight, poorly nourished, easily fatigued, who run an intermittent low-grade temperature and complain of vague, indefinite, transitory pains in the upper and lower extremities, frequently referred to by the laity as "growing pains." This group deserves consideration because it furnishes the great majority of acute rheumatics.

ETIOLOGY

In discussing the frequency of rheumatic fever in the South, Kaufman[1] suggests that its supposed extreme rarity may be due in part to failure to recognize the disease in these localities and Nichol[2] states that rheumatic heart disease was one-tenth as common in southern Florida as it was in Boston over the same period. Pounders and Gray,[3] in discussing the factors that play a part in the incidence of rheumatic infection, mention dampness and chilling. They suggest that natural gas used in cooking and heating, being a hydrogen gas, produces a great deal of moisture in the process of combustion and call attention to a situation which we have all observed in and around New Orleans when they point out that "in small homes where open gas stoves are used with poor ventilation it is not uncommon to see the furniture, walls and ceiling literally dripping wet in cold weather. So after all," they conclude, "we have here, artificially produced, the very kind of environment that strongly predisposes to the condition."

The etiology of rheumatic infection has been investigated and discussed for many years but the cause is still unknown. It is generally accepted that streptococci of the hemolytic variety, play a prominent part. Schlesinger[4] suggests that since "years of careful bacteriological research have failed to reveal a constant bacterium in the tissues gives some encouragement to the idea that a virus might be the possible agent, probably acting in conjunction with a streptococcal infection." Others have suggested that the infection is an allergic phenomenon.

As clinicians, our conception of rheumatic infection has changed widely over the years. No longer is it considered primarily a disease of the joints with involvement elsewhere in the body as complications; a concept which gave rise to the name "polyarthritis" in many European countries. It is now recognized as a systemic infectious disease involving not only the joints but the heart, nervous system and subcutaneous tissue as well. Shapiro[5] states, "the rheumatic infection is characteristically variable in its manifestations." Since this is true in a general consideration of rheumatic infection in children this variation is even more marked when the disease is considered in its geographic distribution. Indeed, the symptoms, diagnosis and end results of rheumatic infection differ so widely between the type common to the North and East and the type common to the deep South, that two separate diseases would be suggested if it were not for unmistakable characteristics, differing only in severity, common to both. In any consideration of the rheumatic state as found in the deep South it must be kept in mind that the classical symptoms, namely, the rheumatic nodule, considered by many almost pathognomonic, the skin rash, erythema marginatum, and chorea, common to the Northern and Eastern type, are mostly lacking. In the deep South we must depend on the polyarthritis, prolonged fever and cardiac involvement to reach a diagnosis. Since the etiology of the disease is not known there is no known diagnostic laboratory test for rheumatic infection; the clinical picture must be depended upon. It is quite easily understood that the diagnosis must be approached with caution. For the present, the syndrome must be regarded as indicative of the rheumatic state until definite proof is found to the contrary.

ACUTE AND SUBACUTE TYPES

In this presentation it is my purpose to discuss rheumatic infection as found in two groups of patients. First, in those showing early signs or subacute rheumatic infec-

tion; second, those manifesting acute symptoms.

During the past several years I have tabulated 42 cases of early rheumatic infection and 20 cases of acute rheumatic infection. While these groups are not sufficiently large to present as a formal statistical study, they will serve as a basis for this discussion.

In the first group the following complaints were presented:

1. Pains in the upper and lower extremities and stiffness.
2. Intermittent, low-grade temperature.
3. Poor appetite and failure to gain.
4. Nervousness and fatigue.

CLINICAL SIGNS AND SYMPTOMS IN SUBACUTE RHEUMATIC INFECTION

I. No subject was admitted to this group who did not complain of pains in the extremities. These pains were variable in intensity and more or less transitory. They were more constant and pronounced during periods of prolonged rain and temperature below the average. Pains were noted in the upper as well as lower extremities and were more marked when first arising in the morning. Orthopedic conditions were ruled out.

2. All of these patients ran low-grade, intermittent temperature ranging from 99.5° to 100.5°, with periods of complete remission. Tuberculin tests were made along with examinations for the malaria parasites and agglutination for the typhoid group and the usual tests for brucellosis.

3. In approximately 45 per cent of this group a systolic murmur was heard over the apex. The apex beat was exaggerated and the pulse rate slightly increased.

4. Mild choreic manifestations were observed in three patients, with marked symptoms in one case.

5. Hypertrophied and infected tonsils were found in approximately 75 per cent.

In the group presenting symptoms of acute infection the ages ran from six to nine years.

Approximately 75 per cent of these patients were seen during the winter and spring months, coincident with the highest incidence of upper respiratory infection.

CLINICAL SIGNS AND SYMPTOMS IN ACUTE RHEUMATIC INFECTION

1. Pains in joints of upper and lower extremities were found in each case. These pains varied in severity in different patients and varied markedly from day to day in the same patient. As in the first group, pains were more pronounced during periods of prolonged rain and low temperature. These pains were migratory. The joints were painful upon touch or motion. There was slight swelling; no redness was noted. In 40 per cent of this series pain and tenderness were noted in the neck, back and abdomen. The intercostal muscles were involved at times.

2. Fever ushered in the attack in each case with a daily elevation of 102° to 103° lasting two or three weeks. After the initial elevation, the temperature fluctuated between normal and 100.5° for periods of three to eight months. Three of this group showed an occasional elevation to 100.5°, one year following the initial attack.

3. Six of this group, or 30 per cent, had a definite mitral murmur, systolic in time, which did not improve; two cases were marked. No evidence of aortic regurgitation was found. There was no electrocardiographic evidence of cardiac damage.

4. The pulse rate was elevated in all of this group, remaining well over 100 for weeks, and in many instances, even months, before dropping to normal. These readings were taken at different times during the day, under varying conditions in order to rule out any extracardiac influences. The pulse rate was also observed with the patient asleep.

DIFFERENTIAL DIAGNOSIS

Among the main points in differential diagnosis in the subacute group is the evaluation of joint pain. Abt[6] declares "It is difficult to conceive the nature and pathologic process involved in a condition referred to as growing pains. The burden of proof for the diagnosis of growing pains rests on those who conceive its possibility. The fact that the pains occur in growing

children does not of itself imply that the pains are due to the growth process. Perhaps in some cases pains are due to muscle fatigue, exercise or other non-rheumatic conditions not fully understood."

Joint pain associated with a rheumatic background will show some degree of tenderness on pressure and discomfort on motion. There is usually found tachycardia. There is also found a low-grade intermittent fever. Pain is complained of in the morning instead of at night. Pain involves both upper and lower extremities.

In the acute group brucellosis must be excluded. The intermittent type of brucellosis is characterized by weakness, pain in the joints, muscles, back, head and abdominal regions, nose bleed, chilliness and rigors. The fever is often high, fluctuating widely. The duration is from three weeks to eighteen months.[7] The undulating type shows periods in which there is no elevation of temperature and no clinical symptoms. As will be seen from the clinical signs of brucellosis, laboratory tests are necessary to clarify the picture. Three tests are essential; the agglutination and skin tests and the opsonocytophagic reaction. Calder states, "the present analysis indicates that if any two of these tests are positive the chances are about seventy to one that the clinical symptoms will be found compatible with a diagnosis of brucellosis."

SUMMARY

Rheumatic infection in children in the deep South is relatively infrequent but an apparent increase is suggested. The classical signs and symptoms are usually lacking in the Southern type and the end results much less disastrous. Subacute and acute forms are recognized. Joint pains, prolonged fever and mild cardiac involvement make up the clinical picture. For the present the syndrome must be regarded as indicative of the rheumatic state until definite proof is found to the contrary.

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DISCUSSION

Dr. Roy E. de la Houssaye (New Orleans): Dr. Bailey's paper has given us something that I do not believe very much has been written about in the past number of years. He mentioned that rheumatic infection was considered a rarity in the South. I am in hearty accord with this. When I was in Boston and New York many years ago, I saw quite a number of cases of rheumatic fever. However, I have seen so few here in New Orleans and vicinity that I can think of only one or two patients at the present time. We see lots of heart infection that takes place following grippe and influenza. These infants and children later have a heart murmur, but no other symptoms associated with rheumatic fever as we know it.

Dr. Bailey mentioned streptococcus as a probable etiology of rheumatic fever. We feel that scarlet fever in the South does not compare in severity with scarlet fever of the North and East. I have found it very difficult to make a diagnosis of rheumatic fever. The rheumatic nodules that you read about in textbooks as classical pictures are rarely seen. I have had interns suspect and diagnose a case as rheumatic fever show me what they considered typical rheumatic nodules and have been able to demonstrate the same thing on other patients with no evidence of heart disease or rheumatic fever. Electrocardiograms in children have not been of very much value to me.

With reference to dampness and chilliness as a factor in rheumatic fever, there certainly should be lots here for I do not think there is a damper or chillier place. Houses sweat, children suffer with upper respiratory infections very frequently.

Dr. B. R. Heninger (New Orleans): My remarks are to be confined to the cardiac standpoint in reference to rheumatic fever. I did not get the exact percentage of heart involvement mentioned by the author, but I thought it was about 30 per cent, which I believe is much lower than my figures and those reported by others. I became interested in the treatment of rheumatic fever in 1936, at which time a preliminary report was made before the Southern Medical Association. I have accumulated some forty cases which have had the benefits of this treatment; these patients range from three to 40 years in age, most of them below 17 years. This group of patients is still under observation mainly by Dr. Russ, teaching Fellow in Pediatrics at Tulane. We have noted that as the patients get

older, approaching adolescence, they have a greater chance of dying of a superimposed subacute bacterial endocarditis.

A late report of Stroud, in Philadelphia, in which 360 children have been observed with rheumatic fever for a period of fifteen years, indicated that the first three years after or following the initial attack of rheumatic infection is the danger period; in other words, these patients are more likely to have recurrences during this three year period than at any other time during their course of the disease. Stroud's report also showed that there were 17 per cent of patients who, later on, showed cardiac involvement although there was no manifested evidence of heart disease during the initial attack. The status of any rheumatic fever case is thus important and I feel that it is extremely important at the outset to determine if a given case of rheumatic fever is active or inactive. Certain criteria have been set down for this determination; such as, a rapid heart rate at rest, any joint involvement, temperature, leukocytosis, a rapid sedimentation rate and others. In a preliminary report before the Southern Medical Association, it was suggested that amidopyrine under the trade name of pyramidon, be used as the drug to convert an active state of rheumatic fever into an inactive state. Our observations clearly showed that this conversion was rapid, sometimes within three days all symptoms were relieved, accompanied by the temperature dropping to normal, the leukocytosis assuming the normal variation, the sedimentation rate becoming prolonged to the normal. With a small maintenance dose the case is continued in the state of inactivity. All these patients were treated in hospitals, white blood counts were made every other day in order to preclude the onset of agranulocytosis, only one patient to date showed a tendency to a leukopenia, and discontinuing of the drug resulted in the white cell count returning to a normal level within 48 hours.

It is urged that this method of treating any active case of rheumatic fever be tried. I am convinced that the danger of agranulocytosis is somewhat overestimated and such a danger cannot be compared to the ultimate danger resulting from the continued activity of rheumatic fever.

Dr. James E. Bailey (In conclusion): I realized when this subject was selected that it is a highly controversial subject, not only in the South where it is occasionally brought out, but especially in the North and East. I certainly do not mean to be dogmatic in any suggestions or statements made. The main thing to keep in mind is that we do not see rheumatic disease in all of its terrible devastating qualities so commonly seen in the North and East. Also that in the deep South it is essentially a low grade infection.

Dr. Heninger finds heart involvement in 60 per cent of his cases. Holt goes as high as 80 per cent and Poynton 70 per cent; my percentage was 30.

The fact is, in considering rheumatic fever if you read long enough and listen long enough you can read and hear almost anything. The main idea in offering this discussion was to point out the fact that we do see rheumatic disease in the deep South. I first began to make note of cases in 1929. Of 20 patients observed as having acute rheumatic infection, half or probably 12 were seen during the past two and a half years; seven are under observation at the present time. Most of these have been in the hospital and every avenue of investigation was used to rule out contributing factors.

In conclusion, may I appeal to you to be on the alert for this condition, because it deserves serious and careful consideration.

SOME FACTS ABOUT PREMATURE INFANTS*

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NEW ORLEANS

In managing the premature, it should be realized that we are dealing with a special type of infant, where slight mistakes may prove fatal. The premature infant must be doubly protected against infection, rapid change in body temperature and digestive disturbances that so frequently result from food. They should be kept under as strictly sterile conditions as possible, entirely isolated, except for the necessary attendant. Probably the electric type of incubator, with thermostatic control, is best adapted to general use. Inside temperature of the incubator should be kept at from 90 to 92° and this should be charted, along with the body temperature of the infant, every three or four hours. Stuffing the premature infant during the early days of life on strong solutions of high caloric value, probably kills more of them than any other single cause. Too much concern over failure to gain in weight during the early days of life is responsible for this error. Little, or no attention should be given to failure to gain in weight during the first ten days, provided the digestive function is not disturbed. It is much better to start them out

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on weak dilutions, with plenty of volume to keep up the body fluids. The type of formula that has given me best results is one high in protein, average in carbohydrate and low in fat. One of the most inadequate body functions at birth is digestion and this is due primarily to an insufficient secretion by the stomach, duodenum and pancreas. This defective function is greatly exaggerated in the premature infant.

PERSONAL OBSERVATIONS

My reason for presenting this subject was due to certain observations that were made by studying a group of children over a period of ten years, who were born prematurely. One hundred cases in private practice, where pediatric supervision was largely continued over this period of time, serve as the basis of this study. The physical and mental progress of most of the children of the group have been noted at the time of their visits to the office.

The case histories were taken from the files in alphabetical order and the salient facts that pertain to physical and mental development tabulated. Many of the older children were studied at their age levels, in order to determine if possible to what extent the premature child is actually handicapped. Variations from the expected standards for full term, normal infants, have been utilized in arriving at conclusions.

TABLE 1

Smallest infant of group, 2 lb. 4 oz.
Largest infant of group, 5 lb. 14 oz.
Average birth weight of group, 3 lb. 14 oz.
Average weight at six months, 13 lb. 11 oz.
Average weight of group at one year, 19 lb. 4 oz.
Average time of sitting up by group, 8 months.
Average time of pulling up by group, 11 months.
Average time of standing by group, 14 months.
Average time of walking by group, 19 months.
Average time of talking by group, 20 months.

There was prolongation in the usual time of recognizing lights, highly colored objects, toys and voices. There was also prolongation in reaction time to certain tests that are made to determine the mental status of infants at different ages.

Table 1 indicates definite retardation in both physical and mental progress during the first two years of life. After that time, however, if the premature infant did well from the start, the physical and mental levels were about up to normal standards and his future progress much less uncertain.

Three children were rejected from the averages of the group, due to frank mental deficiency. The intelligence quotient ranged from forty in the case of the lowest, to sixty in the case of the highest. It is interesting to note that the cause of prematurity in all three instances was toxemia of pregnancy.

COMMENT

It would seem for some good reason that certain premature infants are born to do well, while others are born to perish. We so often see, where apparently all things are equal, one that survives the same type of difficulty that proves fatal to another. Maybe this difference could be explained through difference in stamina of the somatic cells. At any rate, it plays an important role as to whether or not a given premature infant will successfully pass the stormy first three days of life and stem other likely intercurrent conditions.

Whether or not it is a coincidence that 3 per cent of this group showed mental deficiency could not be stated on the basis of other findings. Table 1 indicates that mental retardation was to a certain extent in excess over the physical retardation. This is probably explained in part by the greater lack of development of the central nervous system at the time of birth, but whether this would account for the whole story would be difficult to state.

Once the handicap of prematurity has been overcome, such a child is no more likely to become the "stunted" child of later years than is the normal full term infant. The children of this group, who did well from the beginning, have achieved excellent physical and mental standards. Among

those who did poorly during infancy, are found the physical and mental defectives. Taking the upper stratum of this group, it is difficult to reconcile oneself to the fact that many of them spent the first two months of life in an incubator.

In every instance where mental deficiency was associated with prematurity, there has been a physical deficiency also. There was a large percentage of those who did poorly during infancy who showed immaturity at birth. Immature premature infants are a much more difficult subject, most of them usually meeting with disaster through some intercurrent condition. Those who survive usually do poorly.

Through study of these children, it was noted that mental retardation is much more difficult to evaluate and more likely to persist than are physical inaptitudes. While they are usually found conjointly, often the physical defects right themselves, but rarely ever the mental.

SUMMARY

1. One hundred premature children have been studied over a period of ten years and certain observations on physical and mental development noted.

2. Practically all premature infants are handicapped for approximately the first two years of life.

3. Prematures who do well from the start usually suffer no physical or mental handicaps from prematurity in later years.

4. Those who do poorly during infancy are much more likely to suffer from physical and mental handicaps.

5. Three per cent of the group showed mental deficiency, the cause of prematurity in each instance being toxemia of pregnancy.

6. A large portion of those who did poorly during infancy showed immaturity at birth.

DISCUSSION

Dr. Emile F. Naef (New Orleans): Any time a personal observation of 100 cases is made over a ten year period, I daresay that observer has something pithy to reveal in his remarks.

I agree with Dr. Williams that the high caloric feeding of the newborn in his first forty-eight hours, together with careless nasal catheter feeding, contributes to the high percentage of early mortality. Bear in mind that 3 per cent of all viable newborns are going to be prematures, and of these prematures, we can expect a mortality of some 85 per cent in the first forty-eight hours. The mortality incidence has not been reduced at this early period in spite of all attempts at air-conditioning nurseries, introducing the proper high humidity, or use of whole blood intramuscularly, or careful nasal catheter feeding, together with all the best environmental conditions we are able to furnish. Therefore, the weight of the burden, as remarked by Clifford, of Boston, falls on the pediatrician although we feel it is more an obstetric than a pediatric fault.

The high incidence of mortality is related to intracranial hemorrhage induced at delivery, in the early stages of labor, due to increased fragility of blood vessels. It may be ascribed to some congenital malformation, some faulty position, or encephalitis, but intracranial hemorrhage is still the most common cause of death in the premature. For every week of fetal life that is added to the premature, we can expect an increase in the weight of the child, and it has been estimated that an eight ounce increase in weight is going to add immeasurably to the viability of the child and its chance of survival. If we recall that at the fifth month of fetal life, the fetus gains four or five ounces per week, at the seventh month six to eight ounces per week, and by the ninth month is gaining 10-12 ounces per week, it can be readily realized that each week of intra-uterine life adds to the viability which will enhance the opportunities for survival in the premature.

I would like to ask Dr. Williams if he made any observation in regard to the sex of his series of cases. It has been repeatedly observed that there is a higher incidence of mortality in the male premature. Also, in subsequent pregnancies the multiparous mother seems to have a higher incidence of prematurity. I also would like to ask how many of the series of prematures were twins. The twin pregnancy delivered at full term with the weight of prematurity is certainly a much more viable organism than the premature sibling of the same weight.

Dr. Charles T. Williams (In conclusion): Answering Dr. Naef, I think that we had maybe half a dozen sets of twins and one set of triplets in this series. I do not believe any observation was made as to sex, concerning the rate of death between males and females.

INDICATIONS AND CONTRAINDICATIONS FOR SURGICAL INTERVENTION IN THE TREATMENT OF ABORTION*

P. GRAFFAGNINO, M. D.
NEW ORLEANS

The termination of pregnancy before the sixth month, or in the abortion period, is fraught with many dangers and complications. In the cases of abortion requiring surgical intervention, the high mortality and morbidity are probably due to the lack of a clear understanding of the surgical principles involved. Therefore, I feel that a great deal of good can be accomplished by reviewing the well recognized operative procedure indicated in each particular type of case, and to acquaint those physicians who are not trained in surgery to recognize these values and direct the patient to one so trained, thus giving her the best of all possible surgical aid.

Two points should be kept in mind in the treatment of these patients: First, the importance of the judicious choice of the operative procedure to be employed in each case; and second, constant awareness of the inherent dangers involved when the uterine and peritoneal cavities are invaded.

Surgical intervention in the treatment of abortions is indicated in the following instances: First, in abortion for therapeutic purposes; and second, in the complications and sequelae of abortion.

THERAPEUTIC ABORTION

The age, the parity, the general condition of the patient and the need for immediate or elective surgery play a great part in determining the type or types of operative procedures that can be employed in therapeutic abortions.

The usual technic of therapeutic abortion may be subdivided into three stages: (1) Methods of dilating the cervix; (2) methods of emptying the uterus; and (3) methods of evacuation of the uterus through a uterine incision.

Methods of dilating the cervix: During the first 12 weeks of pregnancy and under the usual aseptic hospital conditions, the graduated metal dilators can be used with uniform safety. The advantages of the dilators are their easy sterilization and quick dilatation of the cervical canal. Their disadvantage is a tendency to produce cervical tears, thereby inviting the risk of hemorrhage and injury.

After the twelfth week of pregnancy, cervical dilatation can best be accomplished when there is no urgent need for immediate termination of pregnancy by the use of gauze packing into the lower uterine segment and cervix. In introducing packs, extreme care must be observed so that the packs do not come in contact with vulval and vaginal infected secretions because contamination of the uterine cavity can result if these precautions are ignored.

The chief danger in the use of packs lies in the fact that they usually lock in secretions, thereby retarding drainage and favoring infection. If packing does not result in sufficient dilatation within from 24 to 36 hours, the use of a small hydrostatic bag with light traction until dilatation reaches 3 to 5 cm. is indicated.

Methods of emptying the uterus: In cases where spontaneous evacuation does not take place after thorough dilatation of the cervical and lower uterine canals, the finger, dull curette or ovum forceps usually suffices to accompiish this purpose in the early months of pregnancy (up to the twelfth week).

After the twelfth week, when abortion does not take place spontaneously following thorough dilatation of the cervix either by dilators, packs or bags, stimulation of uterine contractions with pituitrin or ergotrate or the manual removal of the uterine contents must be resorted to. These manipulations may be done under either general or local anesthesia. For the latter, a one-half to two per cent novocain solution plus one c.c. of pituitrin injected into the uterine wall reduces bleeding to a minimum and gives satisfactory analgesia.

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Methods of evacuation through a uterine incision: Only trained obstetricians and surgeons should attempt any of the incisional procedures recommended, since the danger of hemorrhage or injury to surrounding organs can be great in unskilled hands. The uterus may be emptied through either vaginal or abdominal incision.

VAGINAL INCISIONS

Vaginal incisions are restricted to multiparous women with relaxed vaginal tissues in whom the pregnancy has not advanced beyond the fourth month. The obstetrician has the choice of two methods of vaginal incision: (1) The cervical incision; and (2) the fundal incision.

In the cervical incision method, a semilunar incision is made to loosen the vaginal flap over the cervix and bladder. After lifting the bladder above the line of cervical incision, the cervix is incised longitudinally, the incision extending into the lower uterine segment. The contents of the cavity are now easily removed, and the incision in the uterus closed with interrupted chromic O catgut sutures. The vaginal and cervical mucous membranes are next sutured with chromic O catgut.

In the fundal incision method, or vaginal celiotomy, after the usual inverted-T incision in the vaginal mucosa which permits the separation and lifting of the base of the bladder from the cervix and facilitates the exposure and incision of the peritoneal reflection between the bladder and the uterus, the uterus is advanced forward and incised longitudinally about the level of the fundus. The uterine contents are then removed and the incision in the uterus closed with several layers of chromic O catgut sutures. The peritoneal fold and the vaginal incision are also sutured with chromic O catgut interrupted sutures. Sterilization, if desired, can be readily accomplished during this procedure.

ABDOMINAL INCISION

Hysterotomy by the abdominal route is particularly indicated in primiparous individuals with pregnancy advanced beyond the fourth month and where sterilization is also indicated. Under local or general anesthesia, the peritoneal cavity is entered through a longitudinal or transverse abdominal incision. The uterus is incised, contents removed, and uterine incision closed with several layers of interrupted chromic O catgut sutures. If sterilization is indicated, it can easily be accomplished by one of the many methods available for this purpose. The abdominal wound is closed in the usual manner.

The dangers of therapeutic abortion are the risk of infection and perforation of the uterus.

Risk of infection can be reduced to a minimum by the exclusion of all cases of cervical infection, the employment of strict aseptic precautions, and the complete removal of the uterine contents. Except in emergency, evacuation of the uterus should always be done in the hospital under the proper surgical conditions.

Perforations will rarely occur when the cervix has been thoroughly opened, if instrumentation is gentle, and especially if, before operation, a bimanual examination is made to determine the size and position of the uterus. Another precaution to be observed is one concerning the use of ovum forceps. These should never be used to pull tissues from the uterine wall but only to remove already loosened tissues which are free in the uterine cavity.

SURGERY FOR THE COMPLICATIONS AND SEQUELAE OF ABORTION

Acute metritis, parametritis, suppurative adnexitis, pelvic abscesses, thrombophlebitis, pelvic peritonitis and general peritonitis are not uncommon complications of septic abortions. Although many of these complications respond to the conservative type of treatment such as blood transfusions, sulfanilamide, specific sera and supportive measures, an occasional case not responding to this treatment must be treated surgically. The conditions warranting surgery are: Some types of intrapartum infection; abscesses of the uterus or adnexa; localized thrombophlebitis; and beginning spreading peritonitis. The recognition of these certain types of abortional complications requiring surgical intervention may be difficult and

at times are not recognized until too late to expect a favorable outcome after surgery. The course of these complications may be progressive and therefore, only by constant observation and repeated vaginal examinations can the change in the pathologic picture be appreciated.

Once a diagnosis is established, the operative procedure necessary, no matter how radical, should be employed. The infected tissues should be removed and ample drainage provided for the diseased tissues which must necessarily be left behind.

CLASSIFICATION OF COMPLICATIONS

Acute endometritis: The majority of these cases respond to the symptomatic plan of treatment and surgery is rarely indicated.

Parametritis, pelvic cellulitis: These intrapartum infections usually follow cervical lacerations and are common. The majority of these cases end in localization of the infection with resolution. However, if there be a greater spiking of the temperature curve, a marked leukocytosis, and rapid pulse rate, a spread of the infection with abscess formation is indicated. If, by bimanual examination, localized collections of pus are found, immediate incision and drainage by the vaginal or abdominal route is imperative. Often, this operation is performed even though there may be no bulging in the cul de sac or fornices.

Vaginally, the usual transverse incision is made posterior to the cervix and, by blunt dissection, the involved tissues are located and abscess cavities opened and drained. Packing the peritoneum with fluffed gauze aids in drainage if no free pus is found. There are many instances where the vaginal incisions are not sufficient for drainage or are impossible because of the location of the exudates. In this group, an abdominal extraperitoneal drainage by Cullen's technic should be established.

Localized uterine infections: When localized uterine infections are associated with tubal and ovarian infections with some involvement of the blood vessels in the placental area or in the folds of the broad ligament with or without suppuration, a transperitoneal exploration with excision of the diseased structures (salpingectomy, oophorectomy, hysterectomy, phlebectomy) is indicated. If the diagnosis be made early and the operative procedure not used as a last resort measure, many of these patients can be saved by this form of surgery.

Peritonitis: Extension of the infection takes place early or late in the course of the disease. Frequently, it is the last step in the sequelae of events which begins with an endometritis, metritis, parametritis and pelvic peritonitis. Pain, tenderness, or rigidity in the lower abdomen with a more continuous elevation of temperature and a greater acceleration of the pulse rate indicate the onset of pelvic peritonitis and hiccoughs, vomiting, distention, and the pinched facial expression usually indicate spreading general peritonitis. The sero-purulent or purulent exudates which accumulate in the pelvic cul de sac may result in a general peritoneal infection with intestinal paresis. This paralysis of the viscera favors the formation of adhesions between residual collections of pus and the intestines and thereby results in abscess formations in the cul de sac or in any region of the peritoneal cavity.

In the treatment of septic postabortive peritonitis, the value of surgical intervention will depend largely upon the type of infection and the presence or absence of blood stream infection. When the latter occurs, surgery is always contraindicated. In the less virulent types, even though a diffuse peritonitis exists, recovery is still possible if complete drainage be promptly established by posterior colpotomy or transperitoneal pelvic drainage.

SUMMARY

1. The purpose of this review is to remind the physician of the hazards attending abortion in general and to acquaint him with the proper procedures when surgical intervention becomes necessary in their treatment.

2. There are two cardinal points to be kept in mind: the importance of selecting the suitable operative procedure for each particular case; and a warning of the dangers involved when the uterine and peritoneal cavities are invaded.

3. If conservative methods for therapeutic abortion such as the use of drugs, dilators, packs or bags do not suffice, more radical surgical procedures such as manual removal of uterine contents or vaginal or abdominal incision must be resorted to.

4. There is a limited but quite definite place for surgery in the treatment of the complications and sequelae of abortion, and when a diagnosis is established, the operative procedure necessary, no matter how radical, should be employed.

DISCUSSION

Dr. Philips J. Carter (New Orleans): Abortion is the technical term for interruption of pregnancy before viability. All interruptions before viability are termed abortion. The nomenclature of "miscarriage" has been dropped.

The most common indications for surgical intervention in treatment of abortion are found in the progressive diseases of the lungs, heart and kidneys; others are malignancy, nutritional diseases and threatened abortion with profuse and continuous hemorrhage. Holland, in 1924 to 1930, reported 160 cases in which 44 per cent fell in this class. In acute and progressive type of tuberculosis we advocate emptying of the uterus by the fifth month. In auricular fibrillation with congestive heart failure, interruption should be done before five months, or as early as we can before that time. Interruption is also advocated in chronic nephritis and pre-eclampsia which does not respond to treatment.

The important factor is deciding on the course of treatment. Usually, emptying of the uterus at two or three months, under aseptic procedure, can be done without danger of infection or hemorrhage. If the operation is done quickly with sponge forceps there is no more danger at three months than at two months. At four and five months and after, the question of hysterotomy and sterilization is considered. There are two surgical methods in performing therapeutic abortion: first, the vaginal and, second, the abdominal route. In early pregnancy dilatation with Hegar dilators or Goodell dilator and sponge forceps, curettage, packing of uterus and removal of packing in 24 hours rids the uterus of its contents. Some operators practice vaginal hysterotomy, using ovum forceps and the product is extracted without destroying it. Usually in primiparae at two or three months' pregnancy, where indications are justified, dilate and use sponge forceps and pack. Where the patient has already begun to abort and bleeding occurs, packing will relieve the uterus of its contents or stimulate contraction of the uterus, and when the packing is removed the contents usually follow.

The abdominal route is used in primiparae with long cervices where dilatation would consume hours and would affect the general condition of the patient. In those cases I believe the abdominal route and sterilization should be done, if done for one of the conditions which will interfere or will have a definitely bad influence on the patient's future pregnancies.

In cases that are septic we treat the patient watchfully and do not empty the uterus unless there is active hemorrhage and the patient's condition is progressing. Then we pack the uterus and allow the packing to release contents of the uterus. I do not like to do that except in cases of extreme hemorrhage.

Dr. Rhett McMahon (Baton Rouge): I just want to make a few remarks in regard to early surgical intervention and complications or sequelae. In the hands of specialists in well equipped hospitals with assistants and laboratory and necessary help, I think undoubtedly the intervention early in the complications will afford good results but for the average practitioner, the occasional operator, I think the results are far better if we confine ourselves to the conservative handling of these cases.

Whether or not surgical intervention should be used depends, I believe, entirely upon the time of diagnosis. Unless the diagnosis of complications is made very early, which is impossible in the hands of a great many of us, I believe, as I said, the conservative treatment will bring better results.

Dr. Graffagnino (In conclusion): Let there be no misunderstanding about my attitude toward conservatism in the treatment of these cases; I believe that it should be given a trial in all cases. However, I know from personal experience that over-conservatism is dangerous in many instances and many patients have been lost because of a lack of enough courage to attack these cases surgically while surgery might still have been of some aid.

WHY WE SHOULD BE FAMILIAR WITH THE ROENTGENOLOGIC APPEARANCE OF DEVELOPMENTAL CHANGES OF THE SKELETON*

A. MAYORAL, M. D.
NEW ORLEANS

I once became very indignant at an attorney who remarked that the desired expert medical testimony was always available if sought. The attorney, an older and wiser man as well as a friend, was very

*Read before the sixty-first annual meeting of the Louisiana State Medical Society, New Orleans, April 23, 1940.

much amused by my indignation, and, smiling, reminded me that I quite often rendered expert testimony in his cases.

"Now," asked he, "have I ever tried to influence your opinion? I send you a client," he continued, "you form your opinion, and if it is in conflict with that of the opposing expert, you testify; if not, I seek someone else. While on the stand you experts agree on one point only; that the claimant was injured. The judge, a layman on medical problems, hears conflicting opinions from learned members of the medical profession and eight times out of ten he gives the claimant the benefit of the doubt. Thus I win my point."

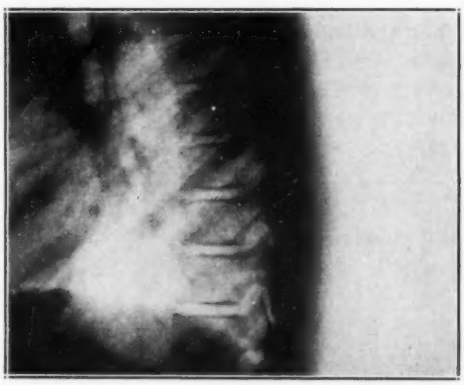
This happened many years ago, but little change has occurred in the method of procedure of the law in handling compensation cases, and the shrewd attorney still continues to capitalize on the discrepancies of expert testimony.

Conflicting opinions of medical experts are sometimes unavoidable. The opinions rendered are usually honest, based on knowledge of the facts in the case, and past experience, and not opinions molded to fit the needs of the case.

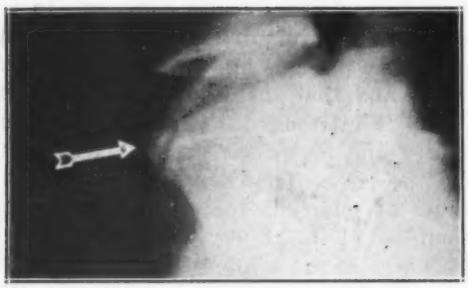
You will agree with me, that the increased protection and liberalization of compensations offered labor have increased the period of disability following injury, and have created most unusual and puzzling post-traumatic phenomena that have led and will probably continue to lead physicians to render fallacious opinions. For such cases, I feel, we are not wholly to be blamed. There are, however, conditions that have been the basis for inexcusable, erroneous, and conflicting expert testimonies. The mistakes, as I see them, have usually been made by men whose roentgenologic material or whose experience in roentgenology is limited. The conditions I refer to are developmental changes of the skeleton; that is why I feel we should be familiar with their roentgenologic appearance.

The spine is the most prolific anatomic section in developmental changes. It also presents most baffling diagnostic problems. I will, therefore, consider it first. "Pain in the back" is a very common complaint. Injury to the back is also common. In the presence of injury it seems logical to suppose that pre-existing pain can be aggravated and that the injured person is inclined to attribute his pain to the present injury and forget his past. I must admit that we are far from agreed as to the actual cause of many of the symptoms patients complain of in this region. I refer to persons who have no interest in exaggerating their condition. But I feel certain that the anatomic alterations I am about to show you should not be held responsible *per se* for damaging lesions and prolonged symptoms.

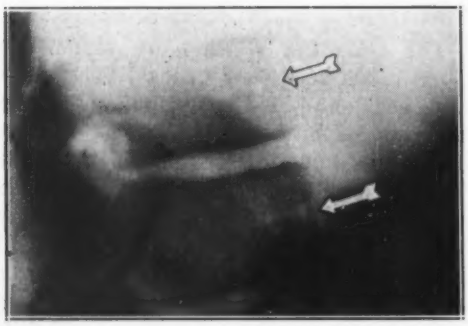
The following slides were made from films taken from our general files. Some were accidental findings. Similar findings, however, have been diagnosed as old fractures. In all of the cases in which we have changed the diagnosis, the change has been accepted. Many of the injured have dropped court action when informed, while others have accepted cessation of compensation without further complaint. These facts are strong arguments in favor of the contention that congenital anomalies *per se* are symptomless. It is obvious that within the allotted time I can show only a few selected slides.



Slide No. 1 is a normal spine of a twelve year old child. The epiphyseal ossification of the cartilaginous discs of the bodies show well. I am certain that at this age these epiphyses are never taken for fractures. When, however, a single epiphysis



fails to unite (slide No. 2.) the anomaly has often been mistaken for chip fracture of the body.

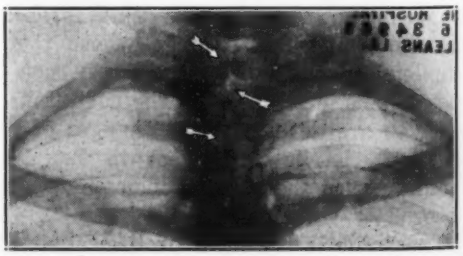


Slide No. 3 shows a clear space crossing the body of the vertebrae parallel to the superior and inferior borders usually midway. Any vertebra or any number of vertebrae can potentially show the condition, but it is most often seen in the dorsal region. When the body also shows some flattening, the resemblance to compressed fractures is very striking. Actually this roentgenologic appearance is caused by an unusually large and persistent nutrient foramen.

Slide No. 4 shows fusion between the bodies of the sixth and the seventh cervical vertebrae. In this patient it was an accidental finding, causing no deformity. This condition, generally known as Klippel-Feil syndrome, is responsible for many disfiguring deformities of the neck. They appear usually early in life.

Slide No. 5 the Sacrum: The arrow points to an ununited epiphysis of the lamina of the lateral surface. This is not a chip fracture.

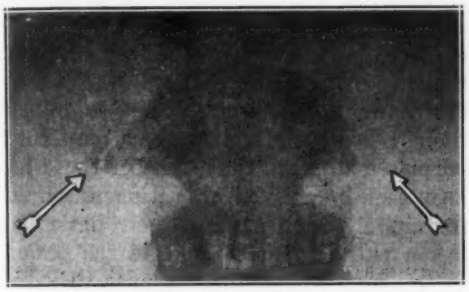
Slide No. 6 demonstrates an accessory nucleus for the inferior articulating process of the fourth lumbar. The condition is relatively rare. In the roentgenograms it resembles a detached portion of bone from the tip of the articulating process.



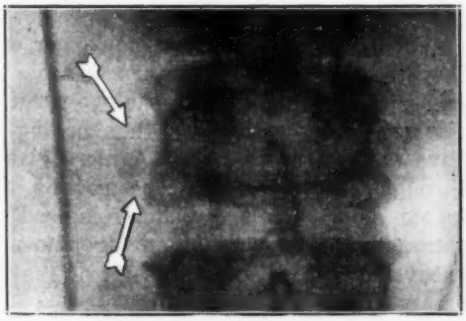
Slide No. 7 shows a spina bifida caused by failure of the laminae to fuse posteriorly to form the spinous process, the space being

gapped by fibrous tissue. It has been found in all segments of the spine, very common in the first sacral segment. Every vertebra presents the potentialities for the deformity. This patient showed the abnormality in the first, second, and third dorsals. When no external deformity accompanies the bony changes it is called occulta.

Non-union of the transverse processes in the lumbar region is very common and so

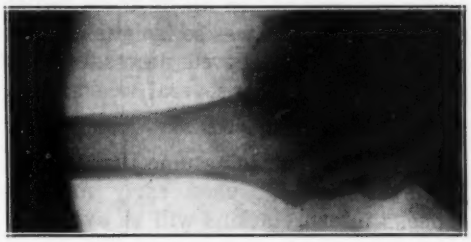


easily recognized (slide 8) that no one should commit errors and accept them for fractures. When the anomaly is found in



other vertebrae, the fourth lumbar (slide 9), a very rare finding, the error is possible but should be avoided.

Slide No. 10 presents a very annoying deformity, one that is and has often been diagnosed as an old ununited fracture. Actually it is the same type of anomaly seen in the previous slides but in the dorsal region. The non-union is in the transverse process of the first dorsal vertebra, actually seen once in every 1500 chests.



Slide No. 11 reveals a cleavage in the distal end of the acromium process. Careful scrutiny reveals the well rounded smooth edges of the line of cleavage. The anomaly is caused by failure of union of the acromial epiphysis. It is bilateral in a good percentage of the cases. In the presence of trauma it has been mistaken for fracture. Unfortunately in the usual antero-posterior roentgenograms of the shoulders the anomaly is seldom recognized. This explains why we are not familiar with its roentgenologic appearance. When the rays are directed from below upward obliquely through the axilla, the resultant roentgenogram leaves no doubt. The anomaly is known as os-acromiale.

Slide No. 12 shows that in the upper portion of this patella there is a detached piece

of bone. This, however, is not a fracture but a congenital deformity generally known as patella bipartita. The diagnosis made in most of these patients was "old ununited fractures." Evidently the fact that the breach was not of recent date has been generally recognized. In all of these patients the original injury was so insignificant that no x-rays were believed necessary at the time and were made several weeks later.

CONCLUSION

It seems logical to assume that if the injured are radiographed early many erroneous interpretations will be avoided.

DISCUSSION

Dr. E. R. Bowie (New Orleans): I think that Dr. Mayoral has chosen an excellent subject for a general meeting such as this. If we were talking only to radiologists it would be different than with the general man who is not so well trained in all the factors of radiologic diagnosis. This is of extreme value.

The only thing one could add to such a presentation would be to consider other parts of the body; taking up various developmental abnormalities of the foot, hand, and all the rest of the skeletal structure. This presentation which Dr. Mayoral has given has been sufficient to call our attention to the existence of these things and the necessity of differentiating developmental abnormalities from other conditions.

Dr. Stakely Hatchette (Lake Charles): To reemphasize what Dr. Mayoral and Dr. Bowie have said I wish to say that out in southwest Louisiana on several occasions we have almost had to refute the testimony that non-radiologists were ready to give in court concerning cases of this kind. No radiologist wants to get up in court and deliberately say that a man is mistaken in calling one of these persistent epiphyses a fracture. It is embarrassing both to the physician and to the radiologist who has to do it. I think if the physicians who own and operate x-ray machines would read Dr. Mayoral's article, when it is in the Journal, it will be of untold benefit to them.

Dr. Mayoral (In conclusion): I have nothing to add except to emphasize the importance of this subject. It is embarrassing for anyone to deny, in court, the existence of injury—when a congenital anomaly has been erroneously diagnosed "fracture."

GLAUCOMA

THE RESPONSIBILITY OF THE GENERAL PRACTITIONER*

M. CARL WILENSKY, M. D.†
NEW ORLEANS

We are seeing entirely too many tragic and pitiful cases of glaucoma in our clinics and occasionally in our offices. And because the condition has been overlooked in its earlier stages, these people present themselves with markedly reduced vision and even blindness, in some cases. Many of these patients give a history of having recently had glasses changed two, three or more times in a vain effort to improve their vision. And you may or may not be surprised to learn that some of these have been seen by general practitioners who unfortunately have advised their patients to buy a pair of glasses, or told the patients their vision was failing because they were developing cataracts. In a few instances the general practitioner has been guilty of prescribing drops for the patients and telling them that they have to wait until the cataracts are "ripe" to have them removed.

When these patients can no longer see, they then believe their cataracts are ripe and present themselves to the eye surgeon for a cataract extraction, thus hoping to have their sight restored. A mere glance through the ophthalmoscope reveals the tragic story. Lo and behold, instead of cataracts there is found an atrophic and excavated optic disc as a result of the increased intra-ocular pressure.

CASE REPORT

I will give the history of one of these sad cases, that of Mrs. C., a white female, aged 47 years. Her history is more dramatic perhaps than many of the others, because she was seen, not by one, but by at least four or more different physicians, not one of whom apparently recognized the red flag she literally waved before their eyes.

About ten years ago she began to have pain behind her left eye. The eye ran water. If she lay awake or worried, the eye would start to hurt; it might last all next day and finally wear off. Some-

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†From the Department of Ophthalmology, Tulane University of Louisiana, and the Eye, Ear, Nose and Throat Hospital, New Orleans.

times she would awake in the morning with pain around the eye and the eye would ache. She had to stay in bed all day, pain was so severe. She bathed her eyes with warm boric acid and took purgative medicine, thinking that her trouble might be due to her liver. These attacks would come on about once a month; if she strained her eyes, attacks came on more often.

The right eye began to pain about five years ago. She used to sit up at times with sick neighbors and give them medicine. At times, when she looked at lamp light, noticed that there was a rainbow around the lamp and her eye hurt so, she had to give up and go home.

About the first of November, 1938, she went to a physician for a pain in her hip and lower part of her back. She also told him about the pain in her head and eyes. The doctor advised her that she had cataracts and should go to Charity Hospital.

Shortly afterward she went to another physician who also advised her that her failing vision was due to cataracts and he gave her a note to one of our local hospitals. The admitting intern looked at her eyes, said she had cataracts and sent her into the hospital. A doctor came by that evening, looked into her eyes and said the cataracts were not ripe. She was in the hospital five days. The nurse discharged her and told her, "Come back in three months or six months." She asked the nurse if it was all right to stay away six months. The nurse replied, "yes, the cataracts will be good and ripe at the end of six months." Mrs. C. spoke with other patients on the ward. An old lady, who had just had a cataract extraction, told her that she would not be able to see when the cataract was ripe. So our patient went home to wait for the "skim" to grow completely over her eyes.

Her vision finally deteriorated to the extent that she was bumping against the furniture, because she could not see it. Friends then prevailed and took her to Dr. Weiss. He, of course, readily recognized the condition and advised her to go to the eye clinic, where I saw her the following day. We found her vision was reduced to the stage that she could only recognize hand movements, she could not see the fingers. Intra-ocular tension was 75 mm. of mereury and the optic disc showed marked glaucomatous excavation.

DISCUSSION

Repeatedly I have heard in our clinics, exclamations from the attendants, lay individuals, and even from the interns, wondering why no greater efforts are being made to prevent some of these tragedies through an educational program. It is my humble opinion, after years of observation and a number of discussions with residents of the eye service, who had previously been out in general practice, that the average general practitioner throws up his hands at the word glaucoma. He feels that glaucoma belongs to the vocabulary of an eye physician and about all he should remember or know about the condition is that it means increased intra-ocular tension. If you will pardon my saying so, I think that the medical practitioner who takes this attitude is wrong. The medical practitioner, if he would only try, could be a sight saver, but before you can diagnose a case of glaucoma you must first think of glaucoma. If a patient complains of abdominal pain and the doctor thinks only of appendicitis, he will not ask the questions or elicit the signs which could lead to a diagnosis say, of ectopic pregnancy or of pneumonia. Yet when it comes to glaucoma which, during 1938, was given as the cause of blindness in 11.1 per cent of those persons receiving aid for the blind in Louisiana, we have been negligent. I believe this state of affairs has come about because the medical men and certainly the lay public have not had brought before them the ravages of and the toll that glaucoma is exacting. I do not think they have heard much about the importance of early diagnosis and treatment of glaucoma. I wonder if the average medical man realizes the amount of glaucoma that exists.

This was brought forcefully to my attention by the case history of a physician I sawing during the past year for Dr. Blum. According to his history, about a year ago he noticed that the vision in his right eye was somewhat dim and the eye felt heavy. This gradually wore off several days later. He then went to an optometrist and had glasses fitted. The optometrist told him the sight in his right eye was poorer than the left. About six months later a light "scum" came over the right eye. There was no pain, just a heavy feeling in the eye, so he finally decided to consult an oculist. I asked him why he did not have his eyes examined by an eye physician in the first place and if the possibility of glaucoma had occurred to him. He replied, "I know I should have gone to an oculist the first time, but I didn't think there was any-

thing wrong with my eyes. I just thought I needed some glasses. As for glaucoma, it is such a rare condition; we general practitioners see so few cases of glaucoma that the thought just didn't occur." But that is a fallacy. Glaucoma is not a rare disease. I can recall more than one morning during which I have seen three new cases of glaucoma in my clinic. Now if one of the many eye clinics in our city can have three new cases of glaucoma in one morning you can readily realize it is no rare disease.

INCIDENCE

If the average doctor will only think in terms of the number of cases of cancer or tuberculosis he has in his own practice, he might also get the false notion that there are few cases of tuberculosis or cancer and that these conditions are therefore rare.

I have here some very interesting but startling figures furnished me by the National Society for the Prevention of Blindness. Lehrfeld and Reber examined the record of 1,876 patients with glaucoma seen at the Wells Hospital in Philadelphia from 1926 to 1935. I will quote from their summary: "From the standpoint of public health, the most significant finding is the fact that 784 eyes had vision already reduced below 20/200 when the patients first presented themselves at the hospital. This is a commentary on the state of ignorance of the early signs and symptoms of glaucoma existing among patients, to some extent among the family physicians and certainly among non-medical ocular practitioners."

Emile de Groz, in a lecture he delivered in the United States in Oct., 1930, stated, "taking one year, 1929, as an example we had 737 glaucomatous eyes in our out-patient department; only 32 of all those eyes were shown in the prodromal stage of the disease, a little more than 4 per cent then were seen during the early stage of the disease."

Von Graefe who gave us the iridectomy in the treatment of glaucoma, stated 70 years ago "the degree of recovery depends essentially on the length of time the eye has already been affected."

CLASSIFICATION

Glaucoma is the name applied to several varieties of a disease in which increased intra-ocular tension is the most characteristic sign. Glaucoma may be subdivided into:

I. Primary glaucoma in which clinically there can be found no antecedent disease in the eye to account for the increase in tension.

II. Secondary glaucoma in which there are definite pathologic changes to account for the increase in tension such as:

1. Iritis or iridocyclitis in which there develop adhesions between the iris and the lens, or the iris angle is blocked by leukocytes and iris pigment.
2. Occlusion of the central vein.
3. Severe ulcers of the cornea, especially if they perforate and anterior synechia results.
4. Dislocation of, or injuries to the lens either by accident or operation.
5. Swelling of lens during the formation of a cataract.
6. Intra-ocular growth.
7. Intra-ocular hemorrhages.

III. Buphthalmos or hydrophthalmos which is the congenital or infantile type; there may be an absence of Schlem's canal.

Primary glaucoma may be further subdivided into the acute inflammatory or *congestive* type in which the increase in tension is rapid; and the *non-congestive* type or glaucoma simplex where the tension increases gradually and the eye ball accommodates itself to the altered conditions.

You probably all recall the very nice little table printed in most student textbooks on ophthalmology that gives the differential diagnosis between (1) acute inflammatory or congestive glaucoma; (2) iritis and (3) conjunctivitis. This is an important differential diagnosis and it has been stressed by instructors and has been given frequently as an examination question on ophthalmology. For one thing, it shows the difference between a conjunctival injection which is not so serious and a ciliary injection which means that there is trouble inside of the eye. Secondly, it differentiates iritis (in which the important

drug is atropine) from glaucoma, in which condition atropine is contraindicated because it would further increase the intraocular tension, possibly resulting in destruction of the eye.

I believe we have made a great mistake in the past. We have been so eager to convey to the student the idea that atropine is dangerous in glaucoma, while it is the ideal drug in iritis or iridocyclitis that we have only stressed the congestive type of glaucoma which might be confused with iritis. On the other hand, we have neglected to impress the student with glaucoma simplex, the non-gestive type which is much more prevalent. I dare say that when many doctors think of glaucoma they only think of the type that presents a red, painful eye that has to be differentiated from iritis. I believe I would be safe to hazard a guess that a diagnosis of glaucoma would not occur to the average man if he saw an eye that had no injection, as in the case mentioned earlier, and especially if there were no complaints of pain.

Therefore, it is not exactly their fault either. We have had and are having campaigns to make early diagnoses and institute proper treatment for cancer, tuberculosis, and other conditions. But they have not heard much about the importance of early diagnosis and treatment of glaucoma.

According to Fuchs, one per cent of all patients seen by eye physicians have glaucoma.

I am not worried so much about the patients with acute glaucoma being looked after. They have a red, painful eye and they are going to seek advice. These persons are seen early and incidentally respond much better to surgery than do the cases of glaucoma simplex which are usually seen late. Just as in the case of early cancer, if there is no pain and the symptoms are few and slight, the condition goes undiagnosed, so with glaucoma simplex, it remains undiagnosed until vision is markedly and irreparably lost.

Some patients with glaucoma simplex complain of some pain or discomfort in or around the eye. It may be erroneously considered as merely a brow ache; that it is due to a bilious attack, indigestion, or what have you. The possibility of glaucoma is entirely overlooked. A number of patients who had severe unilateral pain were considered as having migraine.

SUMMARY

This brings me back to the real theme of my presentation. Before you can diagnose a case of glaucoma you must first think of glaucoma. Now the question comes to mind: How is one to suspect or make a diagnosis of glaucoma if there are no irritative or inflammatory signs; that is, if the eye is not injected and especially where there is no complaint of pain. Suspicion should be aroused by:

A. The patient's history if:

1. An elderly person continues to have trouble with his glasses. They just do not seem to be satisfactory. He changes glasses often.

2. The patient gives a history of having had periods of dim or misty vision which may have been accompanied by some discomfort in or around the eyes.

3. There is a history of vision gradually failing.

4. A history of seeing rings, a halo, or better still, a rainbow around lights. Unfortunately, however, many of the cases of glaucoma simplex will not give a history of this valuable diagnostic sign, of seeing rainbows around lights. But the woman whose history I have related did see rainbows around lights; she had a history of failing vision, and also had pain in and behind her eyes. Yet this history which should have led to a diagnosis of glaucoma was ignored by a number of practitioners because they did not think of glaucoma.

B. Upon examining the eye, some of the following signs may be observed:

1. The anterior chamber is usually shallow.

2. The cornea may be dull.

3. The pupil may or may not be dilated; it may react sluggishly. In acute congestive glaucoma the pupil is usually dilated and does not respond to light. Sometimes from the dilated pupil, we may get a dull

slightly greenish reflex, that has been unfortunately and erroneously diagnosed as being due to cataracts, as in the case of Mrs. C.

4. Intra-ocular tension will be found elevated, if the patient is observed over a period of time. You cannot depend on one tonometric reading. Just as in tuberculosis, at times, the patient's temperature may be normal; but if temperature is recorded at four hour intervals the temperature will be elevated at certain times. In glaucoma the tension is usually highest in the morning. The tension may be roughly estimated by palpating the eye ball with the index fingers.

5. With the ophthalmoscope, a glaucomatous excavation may be seen. While this is an important diagnostic aid, we would like to find and diagnose the cases early, before the ophthalmoscope reveals permanent damage and excavation of the nerve head.

C. Typical changes in the fields of vision. Early, there may be a comet-like scotoma, Seidel's sign; later Bjerrum's sign, Rönne's step and a characteristic reduction first in the nasal portion of the field. The field may become gradually constricted without the patient being aware of it until he has a tubular field. Rarely you find an individual who has noticed this and will tell you, "Doctor, I can see fairly well straight ahead, but I can't see anything to the side."

The fields are important not only as a diagnostic measure but are the most satisfactory method we have for following the progress of the disease. As long as the individual retains his field of vision we know the glaucoma has been checked. If the field of vision is reduced on subsequent tests, we know that the ravages of glaucoma are taking their toll.

CONCLUSIONS

Since glaucoma is the disease of the eye most frequently ending in permanent blindness, it is imperative that this condition be kept in mind. Whenever a patient presents himself with a history or any signs and symptoms suggestive of glaucoma, this lead should be thoroughly investigated until a diagnosis of glaucoma is made or ruled out. Many tragic case histories illustrate what happens when patients are fitted with glasses several times and no suggestion is ever made that there may be some diseased condition of the eyes causing the poor vision. When the eye physician finally sees such patients, they are, entirely too often, practically blind. Early diagnosis is essential and proper treatment must be instituted before sight has been permanently damaged.

DISCUSSION

Dr. Charles A. Bahn (New Orleans): It is a pleasure to discuss Dr. Wilensky's contribution because from an ophthalmic point of view, it concerns the subject of greatest importance on this program. Of the 100,000 blind in the United States, approximately 14,000 lost their sight from glaucoma. A large majority lost their sight because the disease was not recognized and intelligently treated early in its course.

The average story of the glaucoma patient, as Dr. Wilensky has told you, is this. Following a variable period in which the person notices in varying proportions, loss of sight, pain and ocular redness, he consults someone for relief. Obviously, all of these symptoms are not present in every case, and neither do they appear at the same time. The healer whose aid is sought may be a physician, or may be a non-medical healer, such as a druggist, or optometrist. The glaucoma patient should have better sense than to consult a non-medical healer. The non-medical healer should be honest enough to say frankly he has no conception of glaucoma, or what to do for it, and be sufficiently interested to refer the patient to someone who does. Education alone will help solve this part of the problem. If the patient has sufficient intelligence to consult a physician whom he has a right to believe has an understanding of his bodily ailments, that physician should assume the responsibility of either treating the patient with reasonable efficiency, or helping him find someone who will.

I realize that diseases of the eye play a very small part in the practice of the average general physician, and that he gives but little thought to the treatment of glaucoma. We physicians, however, should realize our responsibility to the public by not permitting glaucoma patients to advance to blindness without making a reasonable effort to save their sight. In other words, when middle-aged persons consult any physician for ocular pain, redness, or blurred vision, the physician should either understand and intelligently treat that patient, or should refer him to an ophthalmologist who will give him the best possible chance to save his sight.

SPLENECTOMY AND PURPURA HEMORRHAGICA*

MILTON FINN, M. D.
NEW ORLEANS

In analyzing all the splenectomies done at Touro Infirmary from 1924 to 1939 inclusive, it was noted in a surprising fashion that the greatest number of splenectomies done was divided equally between the entities of Banti's disease and purpura hemorrhagica as shown in table 1. But more surprising than all was the remarkably low mortality in purpura hemorrhagica as compared to Banti's disease.

A statistical review was then undertaken and is herewith presented, first giving the history and symptomatology of purpura hemorrhagica, followed by statistical results of all of the 12 cases of purpura hemorrhagica, and concluded with a follow-up to date on every splenectomy done for purpura hemorrhagica that could be contacted.

TABLE 1
SPLENECTOMIES 1924 TO 1939

Etiology	No. of Cases	Recovered*	Died*
1. Purpura hemorrhagica	12	11 (91.7%)	1 (8.3%)
2. Banti's disease	12	5 (41.7%)	7 (58.3%)
3. Ruptured spleens	5	3 (60.0%)	2 (40.0%)
4. Congenital hemolytic jaundice	3	3 (100.0%)	0
5. Von Jacksch's anemia	3	3 (100.0%)	0
6. Miscellaneous	5	3 (60.0%)	2 (40.0%)
a. Chronic mylogenous leukemia	1	1 (100.0%)	0
b. Aplastic anemia	1	0	1 (100.0%)
c. Splenoptosis	1	1 (100.0%)	0
d. Polycythemia vera	1	0	1 (100.0%)
e. Pancreatic adenoma	1	1 (100.0%)	0
Total	40	28 (70.0%)	12 (30.0%)

*The so-called "recovered" group indicates that group of patients who left the hospital in good condition. The "died" group indicates that group of patients dying during the operation or following the operation.

HISTORY

Werlhof,[1] in 1775, first described purpura hemorrhagica, but it was not until 1887 that Denys[2] discovered that the blood platelets were missing in this disease. Hayem,[3] in 1896, found that the clot was non-retractile. In 1910 Duke[4] noted that the bleeding time was prolonged and Hess[5] in 1916 showed marked weakening in the capillaries evidenced by petechiae. Anemia, normal coagulation time, and normal or increased white blood cells complete the blood picture diagnosis of purpura hemorrhagica.

Symptomatically the greatest complaints include purpura, epistaxis, bleeding excessively from small cuts, bleeding gums, menorrhagia, metrorrhagia, melena and hematemesis.

Physically, pallor is present. There are present purpuric spots on the body, varying in size, shape and color and without being confined to or having a predilection for any particular locality on the body. There may or may not be an enlarged spleen present.

Frank,[6] in 1915, and Kaznelson,[7,8] in 1916, both brought forth theories for the absence of blood platelets in purpura hemorrhagica. Frank stated that the fault was in the bone marrow in not producing the normal amount of platelets and thus an "essential thrombopenia." Kaznelson asserted that the fault lay in the reticulo-endothelial system, most likely the spleen, and that the reticulo-endothelial system of the spleen destroyed the blood platelets put out by the bone marrow in normal numbers. Other theories have been advanced but the trend is toward that of Kaznelson's.

As to the treatment for idiopathic purpura hemorrhagica, many have been tried. Vitamin C, sesame oil with fat soluble T, liver extract, parathyroid, x-ray, and snake venom have been used.[9] The most favorable response has been to splenectomy as stated by Rankin and Anderson,[10] Brill and Rosenthal, [11, 12] Cohn and Lemann,[13] Whipple,[14] Eliason and Ferguson,[15] Eliason and Johnson,[16] and Payne and Whitehead.[17]

STATISTICAL RESULTS

In 12 cases of purpura hemorrhagica, taken in consecutive order, it was noted that

*A statistical report from the Department of Surgery, Touro Infirmary.

seven or 58.3 per cent were males, and five or 41.7 per cent were females. This concurs with McLean, Kriedel, and Caffrey,[18] and Pemberton,[19] who state in their series that there are two males to every female who have idiopathic purpura hemorrhagica. Whipple,[20] however, found that 88 per cent were females and 12 per cent males in his series. It was also noted as shown in table 2 that five of the seven males, or 71 per cent, were under 20 years of age when they came to the hospital for diagnosis and treatment, while three of the five females, or 60 per cent, were over 20 years of age.

TABLE 2

Case No.	Sex	Age in Years	Chief Complaint
1.	M	61	Purpura
2.	F	21	Purpura
3.	M	3	Purpura
4.	F	23	Purpura
5.	M	38	Purpura
6.	M	20	Purpura
7.	M	4	Purpura
8.	M	5	Epistaxis
9.	F	34	Purpura
10.	M	17	Hematemesis
11.	F	18	Menorrhagia
12.	F	3	Purpura

Nine of the 12, or 75 per cent, came in with the chief complaint of purpura, one with menorrhagia, one with hematemesis, and one with epistaxis.

In table 3 it will be seen that the duration of symptoms ranges from three days to three years. The division into acute and chronic cases has been made. There were four, or 33.3 per cent, acute cases, and eight, or 66.6 per cent, chronic cases.

On physical examination 11, or 91.7 per cent, had visible purpura and only four, or 33.3 per cent, had palpable spleens.

In reviewing these records it was found that some of these records were inadequately kept as to blood pictures before operation for splenectomy and after operation. However, all the data present on the records were used. In table 4, the red blood cell count, the white blood cell count, the hemoglobin, the neutrophilic count, and the lymphocytic count before splenectomy and on dismissal from the hospital, are shown. One notes that following splenectomy the red blood cell count had been increased by over a million cells and that the hemoglobin had been increased about 11 per cent. The neutrophilic and lymphocytic count have remained about the same before and after splenectomy. The increase in white blood cells, I believe, is a relative one.

TABLE 3

Case No.	Duration of Symptoms	Type of Case	Physical Signs
1.	3 days	Acute	Purpura, anemia
2.	8 mos.	Chronic	Purpura, palpable spleen
3.	2 yrs.	Chronic	Purpura, bleeding cuts
4.	3 yrs.	Chronic	Purpura
5.	2 mos	Chronic	Purpura, bleeding gums
6.	3 yrs.	Chronic	Purpura
7.	3 days	Acute	Purpura
8.	4 days	Acute	Purpura, epistaxis
9.	3 yrs.	Chronic	Purpura, palpable spleen
10.	7 mos.	Chronic	Hematemesis, palpable spleen
11.	4 wks.	Chronic	Purpura, vaginal bleeding
12.	3 days	Acute	Purpura, palpable spleen

TABLE 4

BLOOD PICTURES BEFORE SPLENECTOMY AND ON DISMISSAL

Case No.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	Average
RBC (in millions)													
before operation	3.59	2.07	none	3.69	4.17	3.05	2.50	4.00	3.25	3.55	3.50	4.90	3.47
on dismissal	4.72	2.77	died	none	5.20	3.50	4.81	none	4.60	5.25	5.00	5.00	4.54
WBC (in thousands)													
before operation	3.60	11.55	none	none	4.50	3.00	6.00	12.00	6.80	4.00	7.50	7.00	6.59
on dismissal	16.25	10.25	died	none	10.50	5.00	10.00	10.25	10.80	6.00	12.00	17.00	10.80
Hemoglobin (%)													
before operation	45	20	none	none	65	75	45	75	54	70	60	90	59.9
on dismissal	75	25	died	none	90	70	85	none	58	84	80	97	70.4
Neutrophils (%)													
before operation	90	71	none	none	75	57	62	85	66	64	61	55	68.6
on dismissal	75	79	died	none	78	81	63	79	71	68	74	48	71.6
Lymphocytes (%)													
before operation	10	29	none	none	25	43	38	15	34	36	39	45	31.4
on dismissal	25	21	died	none	22	19	37	21	29	32	26	52	28.4

Comparison of the bleeding times before splenectomy and on dismissal from the hospital is made in table 5. The average bleeding time before splenectomy was 24.5 minutes, and on dismissal from the hospital after splenectomy it was 4.8 minutes. There was a very slight increase in the coagulation times, from 2.90 to 2.75 minutes. The increase in blood platelets after splenectomy was remarkable. The average number before splenectomy was 51,236 platelets. After splenectomy on discharge from the hospital the average number of blood platelets was 260,650.

TABLE 5

Case No.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	Average
Bleeding time (in minutes)													
before operation	30	75	none	11½	20	none	6½	30	none	3¼	20	none	24.5
on dismissal	3¼	1	died	none	4	9	4¾	5	none	5	7	4	4.8
Coagulation time (in min.)													
before operation	none	3	none	2	2½	none	2½	3	none	3¼	4¼	none	2.90
on dismissal	1	1½	died	none	1	3	3	4	none	3	none	5½	2.75
Bl. platelets (in thousands)													
before operation	25	80	none	150	1	0	95	.6	175	30	7	0	51.236
on dismissal	330	190	died	none	290	200	280	650	210	130	116.5	210	260.650

The rise in the number of thrombocytes following splenectomy in idiopathic purpura hemorrhagica was followed in several cases. In case No. 1, before splenectomy, the platelets numbered 25,000 and the bleeding time 30 minutes. In six hours after splenectomy, there were 42,500 platelets; in 24 hours, 57,500; in 48 hours, 95,00 and in 72 hours 145,000. On the twenty-first day after operation the platelets were 330,000 and the bleeding time was three and a quarter minutes as shown in figures 1 and 2. In case No. 5, the platelets were 1,000 before operation and the bleeding time 20 minutes. In four hours postoperatively, the platelets were 60,000; in 24 hours, 160,000; and in 48 hours 260,000. The bleeding time on the eleventh day was four minutes, and the platelets numbered 290,000. Still another case, No. 8, shows the increase in thrombocytes following splenectomy. Before operation there were 600 platelets and the bleeding time was 30 minutes. In 48 hours there were 50,000 platelets; in four days, 110,000; in five days, 200,000; in six days, 250,000 and the bleeding time on this day was five minutes.

Of the 12 splenectomies, only one eviscerated. This was case No. 12. On the eighth day postoperatively, she eviscerated spontaneously. She was taken immediately to the operating room and repaired with through-and-through dermal sutures. Her convalescence thereafter was uneventful. At the present moment she is in excellent health. The percentage of evisceration is 8.3 per cent.

Pemberton[21] reported a 4 per cent mortality in 41 splenectomies for purpura hemorrhagica; Rosenthal[22] reported 16.3 per cent in 43 cases; Eliason and Johnson,[23] no mortality in seven cases; and Whipple[24] no

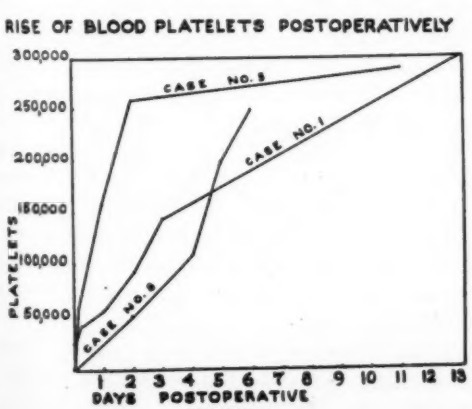

FIGURE 1

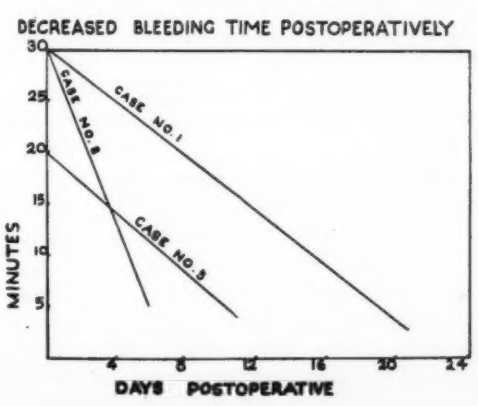

FIGURE 2

mortality in 21 cases. In this series there was one death postoperatively in 12 cases, 8.3 per cent. This was case No. 3, dying 36 hours postoperatively from vomiting and acidosis.

FOLLOW UP TO 1940

Case No. 1. was operated upon in 1926 at the age of 61. He died in 1932, the cause of death being unknown.

Case No. 2 was operated upon in 1927 at the age of 21. She is living and well. She has occasioned no petechiae and has had two children without any difficulty. Living out of town, no blood picture could be obtained.

Case No. 3 was operated upon in 1929 at the age of three. He died postoperatively from vomiting and acidosis.

Case No. 4 was operated upon in 1930 at the age of 23. She is living but whereabouts are unknown.

Case No. 5 was operated upon in 1930 at the age of 38. He is living and well. He has noted several small petechiae over his body on several occasions, but has had no trouble whatsoever and is enjoying good health. On dismissal from the hospital his red blood count was 5,200,000; white blood cells, 10,500; hemoglobin 90 per cent; neutropils, 78 per cent; lymphocytes, 22 per cent; coagulation time one minute; bleeding time, 4 minutes; and platelets were 290,000. At this writing the red blood count is 5,600,000; white blood cells 10,750; hemoglobin, 100 per cent; neutrophils, 60 per cent; lymphocytes, 40 per cent; coagulation time two and a half minutes; bleeding time three minutes and platelets are 193,000.

Case No. 6 was operated upon in 1932 at the age of 20. His whereabouts are unknown.

Case No. 7 was operated upon in 1932 at the age of four. He is living and in good health. He has had a tonsillectomy without any trouble at all. He has had no petechiae. His blood picture at the time of dismissal from the hospital was; red blood cells, 4,810,000; white blood cells, 10,000; hemoglobin, 85 per cent; neutrophils, 63 per cent; lymphocytes, 37 per cent; coagulation time, three minutes; bleeding time, four plus minutes; and platelets 280,000. At this writing his red blood count is 4,680,000; white blood count, 5,000; hemoglobin, 80 per cent; neutrophils, 57 per cent; lymphocytes, 43 per cent; coagulation time, three minutes; bleeding time four minutes, and platelets are 255,000.

Case No. 8 was operated upon in 1934 at the age of five. His whereabouts are unknown.

Case No. 9 was operated upon in 1934 at the age of 34. She is living and well, occupies her time as a housewife. She has no complaints. Occasionally, she has noticed a few petechiae but no free bleeding. Her blood picture on dismissal from the hospital showed: Red blood cells, 4,600,000; white blood cells, 10,800; hemoglobin, 85 per cent; neutrophils, 71 per cent; lymphocytes, 26 per cent; and blood platelets were 210,000. Her blood picture at this writing is: Red blood cells, 3,890,000; white blood cells, 9,000; hemoglobin, 80 per cent; neutrophils, 74 per cent; lymphocytes, 26 per cent; coagulation time two minutes; bleeding time three minutes and blood platelets 220,000.

Case No. 10 was operated upon in 1934 at the age of 17. He is living and in good health. His blood picture was unobtainable at this time.

Case No. 11 was operated upon in 1936 at the age of 18. She is living and well. She has noted occasional petechiae, but no other symptoms or signs. On dismissal from the hospital her red blood count was 5,000,000; white blood count, 12,000; hemoglobin, 80 per cent; neutrophils, 74 per cent; lymphocytes, 26 per cent; bleeding time seven minutes, and platelet count 116,500. At this writing her red blood cells are 4,650,000; white blood cells, 9,000; hemoglobin, 90 per cent; neutrophils, 69 per cent; lymphocytes, 31 per cent; coagulation time, two and a half minutes; bleeding time three and a half minutes, and platelet count 260,000.

Case No. 12 was operated upon in 1938 at the age of three. On her eighth postoperative day she eviscerated. She was re-

sutured in the operating room, and her postoperative course was uneventful thereafter. She is living and in good health. An occasional petechia is noted by the mother, but no other symptoms are noted. On dismissal from the hospital her red blood count was 5,000,000; white blood count, 17,000; hemoglobin, 97 per cent; neutrophils, 48 per cent; lymphocytes, 52 per cent; coagulation time five and one-half minutes; bleeding time four minutes, and platelet count was 210,000. At this writing her red blood count is 4,940,000; white blood count, 8,000; hemoglobin, 75 per cent; neutrophils, 53 per cent; lymphocytes, 47 per cent; coagulation time six minutes; bleeding time three minutes, and platelet count is 187,000.

Altogether one case died postoperatively, and one case died six years after his operation. There are two cases whose whereabouts are unknown. There are eight patients living and well today and who have experienced only an occasional petechia. The blood pictures, which could be obtained, have remained almost the same as the blood pictures that these cases had on dismissal from the hospital following their splenectomy.

SUMMARY

1. A review of 12 splenectomies performed for purpura hemorrhagica from 1924 to 1939 at Touro Infirmary is presented.

2. Seventy-five per cent of the patients came in with the complaint of purpura, and 91.7 per cent had visible purpura.

3. One hundred per cent had anemia, prolonged bleeding time and decreased to absent blood platelets which were corrected by splenectomy.

4. One case out of 12 died postoperatively, for a percentage of 8.3 per cent.

5. In the follow up of these cases to 1940, eight are living and well, two are unheard from and one died six years after operation.

CONCLUSION

Splenectomy is favorable treatment for purpura hemorrhagica.

Many thanks to Dr. J. D. Rives and to Dr. I. Cohn for their help and advice.

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THE DRAFT BOARD

The medical profession of the State of Louisiana has responded nobly, as every one knew it would, to the demands made upon it to supply doctors for the several boards which have been set up for the induction of men into the army service. The physicians of Louisiana have been expected to supply a physician for the Appeal Board. One doctor has been assigned to every one of the draft boards for the examination of the recruit-to-be, and, lastly, nine Medical Advisory Boards have been organized for the purpose of acting as consultants in doubtful cases. These Medical Advisory Boards will assist the examining physician in questionable cases and likewise if the man to be inducted into the service feels that he has some physical disqualification which should bar him from service and this physical disability has not been diagnosed correctly by the examining doctor, he in turn can appeal to the Medical Advisory Board for its opinion.

With the first board the Medical Society has had little to do. In conjunction with the other two boards, under the aegis of the President of the State Medical Society, Dr. C. Grenes Cole, state Chairman of the Medical Preparedness Committee of the American Medical Association and the medical representative of Governor Jones, who in turn had the help and advice of the Councilors of the several congressional districts who in turn have called upon the Presidents of the District and Parish Societies, it has been possible to fill each and every medical position that the Government requires for the examination of the inductee. The response by the physicians to the request for their help has been spontaneous. Almost without exception every man who has been asked to serve has done so willingly and cheerfully. Naturally there have been some mistakes made and possibly some feelings hurt in the selection of the examining physicians. This was a job that had to be done immediately and promptly and very little time was given for its completion, but it can be said in all honesty that the Medical Preparedness Committee of the state has tried to its utmost to be fair and just in selecting the best men for the jobs.

The nine Medical Advisory Boards are scattered throughout the state. There will be three in New Orleans and one each in Shreveport, Baton Rouge, Lake Charles, Monroe, Alexandria and Lafayette. The specialists who compose these boards look like a Who's Who in Louisiana medicine. The specialists of the profession have

volunteered for this work without reservation.

There will be ninety-four examining boards for each one of which one physician has been selected according to the locality in which the board will sit. Here again without question the best men in the community have volunteered their services and have agreed to serve on these boards. It is understood at the present time that each man who has been selected by the Governor and has been sworn in for the purpose of examining recruits, will be privileged to call upon other men to help in the examinations and these men likewise it is anticipated will be given some form of recognition. A great deal of time will have to be spent by these men, not at any one minute but spread over a period of months and it is only right and fair that they should have the opportunity of calling upon others to assist them. It will be necessary to nominate the associate, or associates, have his name approved at Jackson Barracks and on securing approval he will have to take the required oath and be sworn in.

To those men who have volunteered and who receive no pay, all honor should be paid. Their position is a delicate one. Tremendous pressure undoubtedly will be brought upon them at times to exclude certain men on the basis of a minor physical disability. It is a tribute to the honesty of the medical profession that no one anticipates any difficulty on this score. Lastly, it should be pointed out that it is the organized profession of the state who has given its services and that there is practically not a single man on any of the boards who does not belong to the State Medical Society.

CONSCRIPTION AND THE YOUNG DOCTOR

One of the problems that has been agitating the younger physician in conjunction with the recent conscription is what his status would be were he called to one or another of the camps. The young doctor who is married and has dependents of course would be put in the deferred group without much question, but on the other hand there is a considerable number of men who might be called and who do not have dependents and yet who are skilled professional men. The Government and the War Department have been very insistent on the fact that they were trying to fit round pegs into round holes and that a man who has special training in anything would be able to carry on his specialty after he was drafted. It is obviously ridiculous to think of a doctor being assigned to a camp as a buck private and serving in a minor position analogous to an unskilled laborer when he has had years of training and is fit to do something else. It would seem the logical conclusion, if the governmental agencies are sincere in their desire to get the right man for the right place, to have such a man, were he not already in the Medical Reserve, make application immediately for the Medical Reserve, which application, it was stated in a recent meeting in Washington, would be acted upon promptly. In this way within a very short time the young doctor would be commissioned and transferred into the Medical Corps. That is apparently what will happen. The conscripted physician should call the attention of the draft board, before which he appears, to this eventuality and he should point out that even were he used to make up the quota that his particular draft board has to send to camp, that it would be a question of only a couple of weeks before he would have to be replaced.

ACUTE APPENDICITIS

Medical men all recognize that the treatment of acute appendicitis, without complications, is the immediate removal of the offending organ. There is, however, considerable disagreement as to how the patient should be handled in the event that one or more complications occur. A symposium on appendicitis read at the recent meeting of the American Medical Association, attempts to clear up this moot point. Two papers will be mentioned, the first by

Stafford and Sprong[1] who analyzed the mortality from acute appendicitis in Johns Hopkins Hospital, and the second by Barrow and Ochsner[2] who recited their experiences with appendiceal peritonitis as observed in the Lexington Clinic and the Charity Hospital of New Orleans.

The crux of the situation seems to have to do largely with the management of perforated appendicitis: Should the patient be operated on immediately or should the so-called expectant treatment with postponement of the operation be carried out? The first observers maintain that the initial step in the treatment of any condition should be the eradication of the source of infection. They support their statement with figures that go to show that prior to the time of immediate operation the mortality rate was nearly twice that of the present series of immediate operations which ran from 1931 to the present time. They contend that the operation does not spread infection. Of 238 patients with abscess, in only two did peritonitis cause death. In the conservative treatment the appendix is not removed and is always a source of future trouble.

The New Orleans and Lexington commentators feel very much the same way as do the two from Baltimore. They definitely express the opinion that patients seen within twenty-four hours should be operated upon. They believe that the conservative treatment is very hard to carry out and certainly that the man who operates only occasionally should perform the operation irrespective of the time the patient is seen. In patients who come into the hospital with symptoms having been present for many hours, the best plan of treatment is conservatism.

In the discussion of these two papers there was not a unanimity of opinion but the consensus was that patients should be operated upon immediately. Stone, of Baltimore, for example, states that "the basic principle of treatment of advanced disease of the appendix is the removal of the diseased organ." Others concur in this opinion. In a review of these two papers, and their discussion, it would seem to be the part of wisdom for the average surgeon to operate immediately, take out the perforated appendix and then only, employ active treatment to combat the infection.

1. Stafford, E. S., and Sprong, D. H.: Mortality from acute appendicitis in Johns Hopkins Hospital, J. A. M. A., 115:1242, 1940.
2. Barrow, W., and Ochsner, A.: Treatment of appendical peritonitis, J. A. M. A., 115:1246, 1940.

HOSPITAL STAFF TRANSACTIONS AND CLINICAL MEETINGS

MERCY HOSPITAL
New Orleans

The monthly meeting of the staff was held on Wednesday, October 2, at 8:00 p. m. in the Lecture Room of the hospital. Dr. R. A. Oriol, president of the staff, presided.

Because of the summer vacation period, this was the first meeting since June 5. For this reason, instead of the usual scientific program, the mortality records of the intervening months were brought before the assembly by Dr. Edwin L. Zander. Taken from these records, very interesting papers were read as follows: "Status Asthmaticus" by Dr. N. K. Edrington; "Pancreatic Cysts" by Dr. J. A. Vella; "Hemorrhagic Disease of the Newborn" by Dr. G. J. deReyna.

General discussions of the medical deaths were opened by Drs. Louis A. Monte and Edgar Hull. The surgical deaths were discussed by Drs. F. F. Boyce and J. A. Vella.

The next meeting will be held on Wednesday, November 6, 1940.

PERCY A. PHILLIPS, M. D., Sec.

SOUTHERN BAPTIST HOSPITAL
New Orleans

The first fall meeting of the staff was held on Tuesday, September 24, in the chapel. The following papers were presented: "Employment of Plasma in Gastrointestinal Diseases with Case Reports" by Drs. Dan Silverman and R. A. Katz; "Case Report of Pseudo-hermaphrodism" by Drs. E. H. Lawson and H. C. Magee; "Presentation of Two Death Reports" by Dr. R. A. Lucas.

CHARLES L. COX, Chairman.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR

November 4. Orleans Parish Medical Society Board of Directors, 8 p. m.
Clinico-pathologic Conference Hotel Dieu, 8:15 p. m.

November 5. Eye, Ear, Nose and Throat Hospital Staff, 8 p. m.

November 6. Hutchinson Memorial Clinic Staff, 8 p. m.
Mercy Hospital Staff, 8 p. m.
Clinico-pathologic Conference, Charity Hospital Morgue Amphitheater, 1:30 p. m.

November 7. Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.

November 11. Orleans Parish Medical Society, 8 p. m.

November 12. Eye, Ear, Nose and Throat Society, 8 p. m.

November 13. Clinico-pathologic Conference, Charity Hospital Morgue Amphitheater, 1:30 p. m.
Touro Infirmary Staff, 8 p. m.

November 15. I. C. R. R. Hospital Staff, 12 noon.
New Orleans Dispensary for Women and Children Staff, 8 p. m.

November 18. Hotel Dieu Staff, 8 p. m.

November 19. Charity Hospital Medical Staff, 8 p. m.

November 20. Clinico-pathologic Conference, Charity Hospital Morgue Amphitheater, 1:30 p. m.
Charity Hospital Surgical Staff, 8 p. m.
The Orleans Tuberculosis Hospital Staff, 8 p. m.

November 21. Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.

November 22. Joint meeting of the Orleans Parish Medical Society with the U. S. Marine Hospital Staff, 8 p. m., U. S. Marine Hospital.

November 25. Louisiana Association of Pathologists, U. S. Marine Hospital, 8 p. m.

November 26. Baptist Hospital Staff, 8 p. m.

November 27. Clinico-pathologic Conference, Charity Hospital Morgue Amphitheater, 1:30 p. m.
French Hospital Staff, 8 p. m.

November 28. Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.

November 29. L. S. U. Faculty Club, 8 p. m.

During the month of October, the Society held one regular scientific meeting, at which the following program was presented:

1. Biographical Sketch: Luzenberg
   By Dr. A. E. Fossier
2. Case Report: Bagasscosis
   By Drs. Chaillé Jamison and Joe Hopkins
3. Treatment of Postoperative Adynamic Ileus and Obstruction of the Small Bowel with the Miller-Abbott Tube.....By Dr. I. W. Kaplan
4. Cardiospasm—Its Medical Management
   By Dr. Donovan C. Browne

A meeting of the Louisiana Association of Pathologists will be held at the Marine Hospital, Monday, November 25, at 8 p. m. The following program will be presented:

1. Opening Address.....Dr. Edwin H. Lawson
2. Carcinoma of the Cervix Uteri, Its Effect on the Urinary Tract.....Dr. Bjarne Pearson
3. Mitosis Counts in Neoplasia
   Dr. Albert E. Casey
4. Methods for Rapid Preparation of Paraffin Sections.....Dr. J. G. Pasternack

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NEW MEMBERS

The following physicians were elected to active membership in the Society: George E. Burch, Samuel H. Colvin, Jr., and Thomas E. Eddleman; to intern membership Lemann H. Bounds, Robert B. Haspel, Claude Klapper, Richard E. Miller, and Evri B. Mendel.

NEWS ITEMS

Dr. Maud Loeber addressed members of the Loyola Alumnae Association at their first meeting of the school term held September 24.

Dr. Joseph C. Menendez was recently elected Commander-in-Chief of the Veterans of Foreign Wars.

Dr. Howard Mahorner was guest speaker at the meeting of the Coast Counties Medical Society at Gulfport, September 4. The title of his paper was "Peripheral Vascular Disease."

Dr. J. H. Musser was recently appointed President of the State Board of Health.

Dr. Felix A. Planche has been named Chairman of the St. Bernard Parish Board of Health. Dr. Attilio V. Filizola has been named a member of this board.

At the nineteenth annual scientific session of the American Congress of Physical Therapy, held in Cleveland, September 2-6, Dr. Nathan H. Polmer was inducted as president for the coming year.

The subject of his address was "The Evolution of Physical Therapy."

Dr. Edwin L. Zander was recently elected President of the New Orleans Obstetrical and Gynecological Society. Other officers elected were: Drs. Lucien A. LeDoux, first vice-president; J. W. Reddoch, second vice-president; Eugene H. Countiss, secretary; and H. B. Alsobrook, treasurer. The out-going president, Dr. H. Cone Magee, was elected to membership on the board. The members were entertained at a supper at the home of Dr. Magee.

Dr. Morrell W. Miller addressed the Loyola University student body, September 26.

HOSPITAL NEWS

The Baptist Hospital announces the completion of their new nursery. This nursery has 54 bassinets, 2 incubators for premature babies, individual bathrooms, an airconditioning unit and other modern features. With these new facilities the hospital has one of the most up-to-date and complete nursery departments in the South.

WARNINGS FROM THE BETTER BUSINESS BUREAU OF NEW ORLEANS

A man giving his name as James Harbush, has been obtaining money under the guise of being affiliated with the National Foundation for Infantile Paralysis. This man has no such authority. Harbush has operated in various cities, including Chicago and Indianapolis. He may choose New Orleans as his next port of call. If you are contacted on such solicitation, call the Bureau.

Be on guard against one W. E. King, Jr., fictitiously representing himself as an agent of the Columbus Mutual Life Insurance Company of Columbus, Ohio.

TREASURER'S REPORT

Bank balance, August 31, 1940	$4,229.89
September credits	$ 460.62
Total credits	$4,690.51
September expenditures	$ 779.94
Actual book balance, September 30, 1940	$3,910.57

EDWIN L. ZANDER, M. D., Sec.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Wednesday of every month	Baton Rouge
Morehouse	Second Tuesday of every month	Bastrop
Orleans	Second Monday of every month	New Orleans
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	

OUACHITA PARISH MEDICAL SOCIETY

The regular monthly meeting of the Ouachita Parish Medical Society was called to order October 3, 1940, at 7:30 p. m. by Dr. D. T. Milam, president. The minutes of the meeting of June 6, 1940, were read and approved.

The committee appointed at the previous meeting to consult with the Mutual Hospital Association in regard to their letter read its report; it was recommended that the committee submit a written report at the November meeting.

A motion was made by Dr. R. W. O'Donnell that the society tender a birthday party to Dr. R. W. Faulk in honor of his seventy-eighth birthday and his long service in the practice of medicine; also that the president appoint a committee to draw up a biography of Dr. Faulk and invite outsiders to assist, if deemed advisable. This was discussed by Drs. Graves and Milam, who recommended that the committee invite a guest speaker and that the annual (December) meeting be dedicated to Dr. Faulk. This was seconded by Dr. Coon and passed. Dr. George Snellings moved that the annual meeting be called the "Faulk Meeting," this was seconded and passed. Dr. Milam appointed the following committee: Drs. G. Snellings, Graves, Walsworth, Gray, Sr., and McHenry.

Dr. Milam stated that this meeting was held in compliance with Chapter II, Section 3, of the By-Laws which provided that one meeting a year shall be set apart for the full and frank discussion of the business affairs of the profession of the parish. There was no discussion of this question.

Dr. Frost announced that the Southern Tuberculosis Conference would be held here October 21, 22, and 23.

L. L. TITCHE, M. D., Sec.

FOURTH DISTRICT MEDICAL SOCIETY

The fall meeting of the Fourth District Medical Society was called to order at 8 p. m., September 24, 1940, in the amphitheater of the Charity Hospital by Dr. Charles Gowen. Seventy-seven doctors were present from the tri-state area. The minutes

of the previous meeting were dispensed with in order to save time. Dr. Riggs introduced Dr. Neal Owens, of New Orleans.

PROGRAM

Dr. Julius Wilson, Assistant Professor of Medicine at Tulane University, New Orleans, was introduced by Dr. Gowen. Dr. Wilson outlined a plan for tuberculosis control in Louisiana. He stated that 2,000 more beds were needed and that control could best be carried out by division of the state into six separate centers under State Board of Health direction. He estimated that by 1950 Louisiana should have 26,000 beds and stated that the approximate cost would be $300,000 a year for maintenance. Dr. Wilson emphasized the importance of tuberculosis control for prevention of spread to non-tuberculous individuals of the state. Dr. Wilson's presentation was discussed by Drs. Harrison, Gilmer and Bender. The second presentation of the evening was by Dr. R. R. Kracke, Professor of Pathology and Bacteriology at Emory University, Atlanta, Georgia. Dr. Kracke spoke on infectious mononucleosis. Dr. Kracke's long experience and diagnostic study of the disease make him an authority on the subject. His presentation was discussed by Drs. Mathews, Webb and Butler.

Election of officers followed the scientific program with these results: Dr. W. R. Mathews was nominated for president and elected by unanimous vote. Dr. J. P. Sanders was unanimously elected vice-president. Dr. N. J. Bender was re-elected secretary.

N. JUDSON BENDER, M. D., Sec.

SOUTHERN MEDICAL ASSOCIATION

The thirty-fourth annual meeting of the Southern Medical Association will be held in Louisville, Kentucky, November 12-15. As usual there will be a perfectly splendid group of essayists, lecturers, and demonstrators. The scientific exhibit will be outstanding, the technical exhibit interesting, and the motion pictures very instructive. Distinguished medical men from all over the South will make this week's convocation an outstanding one. On the program to present papers are the following physicians from Louisiana: Drs. Emma Moss and J. O. Weilbaecher, Jr., C. H. Webb, D. N. Silverman, G. C. Anderson, H. G. F. Edwards, Howard Mahorner, E. L. King, E. C. Smith and D. W. Goldman, R. E. Arnell, C. B. Odom and M. C. Kolczun, Chapman Reynolds. Louisiana is well represented also in the scientific exhibit and motion picture presentation.

DRAFT EXAMINING PHYSICIANS

BOARD	NAME AND ADDRESS
Acadia #1	H. L. Gardiner, Crowley
Acadia #2	Rufus Webb, Rayne
Allen	Lofton Gray, Oakdale
Ascension	H. A. Folse, Donaldsonville
Assumption	W. W. Pugh, Napoleonville
Avoyelles	Philip Jeansonne, Plaucheville
Beauregard	T. R. Sartor, DeRidder
Bienville	J. L. Wade, Arcadia
Bossier	J. B. Hall, Jr., Benton
Caddo #1	W. B. Allums, Shreveport
Caddo #2	H. J. Quinn, Shreveport
Caddo #3	O. C. Rigby, Shreveport
Caddo #4	J. M. Bodenheimer, Shreveport
Caddo #5	C. H. Pardue, Vivian
Calcasieu #1	Ben Goldsmith, Lake Charles
Calcasieu #2	J. G. E. Barham, Lake Charles
Caldwell	D. O. Sherman, Columbia
Cameron	J. D. Colligan, Hackberry
Catahoula	P. W. Calliham, Harrisonburg
Claiborne	E. A. Campbell, Homer
Concordia	E. M. Campbell, Ferriday
De Soto	H. B. Hewitt, Mansfield
E. Baton Rouge #1	J. J. Robert, Baton Rouge
E. Baton Rouge #2	R. G. McMahon, Baton Rouge
E. Baton Rouge #3	Wm. Hays Cook, Baton Rouge
East Carroll	J. P. Davis, Lake Providence
East Feliciana	Clovis Toler, Clinton
Evangeline	Arthur Vidrine, Ville Platte
Franklin	J. D. Rogers, Winnsboro
Grant	A. J. Morat, Colfax
Iberia	H. J. Dauterive, New Iberia
Iberville	Wm. E. Barker, Jr., Plaquemine
Jackson	C. S. McDonald, Jonesboro
Jefferson #1	Chas. Gelbke, Gretna
Jefferson #2	J. S. Kopfler, Kenner
Jefferson Davis	C. A. Martin, Welsh
Lafayette #1	J. O. Duhon, Lafayette
Lafayette #2	C. K. Olivier, Lafayette
Lafourche	C. J. Barker, Thibodaux
LaSalle	Erastus Miller, Jena
Lincoln	S. L. White, Ruston
Livingston	M. Williams, Denham Springs
Madison	H. C. Sevier, Tallulah
Morehouse	W. A. Rodgers, Bastrop
Natchitoches	M. H. Phelps, Natchitoches
Orleans #1	M. P. Boebinger, New Orleans
Orleans #2	J. J. Archinard, New Orleans
Orleans #3	Dan J. Murphy, New Orleans
Orleans #4	L. A. Monte, New Orleans
Orleans #5	W. G. Troescher, New Orleans
Orleans #6	Edw. Faget, New Orleans
Orleans #7	Frank Chetta, New Orleans
Orleans #8	T. A. Jung, New Orleans
Orleans #9	T. F. Kirn, New Orleans
Orleans #10	Robyn Hardy, New Orleans
Orleans #11	B. J. DeLaureal, New Orleans
Orleans #12	E. W. Guidry, New Orleans
Orleans #13	P. G. LaCroix, New Orleans
Orleans #14	Lucian Landry, New Orleans
Orleans #15	P. J. Saleeby, New Orleans
Orleans #16	F. L. Jaubert, New Orleans
Orleans #17	J. M. Davidson, New Orleans
Ouachita #1	F. P. Rizzo, Monroe
Ouachita #2	Ellis Powell, West Monroe
Plaquemines	Ben H. Carlton, Jr., Port Sulphur
Pointe Coupee	F. F. Rougon, New Roads

BOARD	NAME AND ADDRESS
Rapides #1	J. T. Cappel, Alexandria
Rapides #2	R. C. Scott, Lecompte
Red River	W. B. Hunter, Coushatta
Richland	C. C. Thompson, Delhi
Sabine	R. L. Parrott, Zwolle
St. Bernard	N. P. Trist, Jr., Arabi
St. Charles	P. T. Landry, Norco
St. Helena	H. A. Tynes, Orangeville
St. James	L. O. Waguespack, Vacherie
St. John the Baptist	J. S. Parker, Reserve
St. Landry #1	Albert B. Pavy, Opelousas
St. Landry #2	Harry Jenkins, Eunice
St. Martin	J. L. Beyt, St. Martinville
St. Mary	J. C. Berwick, Berwick
St. Tammany	H. E. Gautreaux, Covington
Tangipahoa #1	M. B. Small, Kentwood
Tangipahoa #2	R. C. Korniker, Ponchatoula
Tensas	J. Whitaker, St. Joseph
Terrebonne	H. P. St. Martin, Houma
Union	Geo. A. Ramsey, Farmerville
Vermilion	M. A. Young, Jr., Abbeville
Vernon	M. W. Talbot, Leesville
Washington	E. E. Lafferty, Bogalousa
Webster	S. F. Martin, Minden
West Baton Rouge	D. W. Landess, Port Allen
West Carroll	Dan W. Kelly, Oak Grove
West Feliciana	C. C. Blakeney, St. Francisville
Winn	S. C. Fittz, Winnfield

MEDICAL ADVISORY BOARDS FOR THE DRAFT

BOARD #1

HEADQUARTERS—CHARITY HOSPITAL

Internist	S. C. Jamison, Vice-Chairman, New Orleans
Surgeon	Urban Maes, Chairman, New Orleans
Otolaryngologist	Val Fuchs, New Orleans
Ophthalmologist	H. F. Brewster, Secretary, New Orleans
Neuropsychiatrist	G. C. Anderson, New Orleans
Orthopedist	H. T. Simon, New Orleans
Pathologist	J. R. Schenken, New Orleans
Roentgenologist	E. R. Bowie, New Orleans
Dentist	S. D. Gore, New Orleans

BOARD #2

HEADQUARTERS—TOURO INFIRMARY

Internist	Randolph Lyons, Chairman, New Orleans
Surgeon	Alton Ochsner, New Orleans
Otolaryngologist	F. E. LeJeune, Vice-Chairman, New Orleans
Ophthalmologist	Victor Smith, New Orleans
Neuropsychiatrist	T. A. Watters, Secretary, New Orleans
Orthopedist	Guy A. Caldwell, New Orleans
Pathologist	W. H. Harris, New Orleans
Roentgenologist	Leon Menville, New Orleans
Dentist	F. J. Wolfe, New Orleans

BOARD #3

HEADQUARTERS—BAPTIST HOSPITAL

Internist	Sam Hobson, Chairman, New Orleans
Surgeon	R. B. Harrison, New Orleans
Otolaryngologist	Spencer B. McNair, New Orleans
Ophthalmologist	Charles Bahn, New Orleans
Neuropsychiatrist	Edmund McC. Connely, New Orleans
Orthopedist	E. D. Fenner, New Orleans
Pathologist	E. H. Lawson, Secretary, New Orleans
Roentgenologist	L. A. Fortier, New Orleans
Dentist	S. L. Tiblier, New Orleans

BOARD #4

HEADQUARTERS—OUR LADY OF THE LAKE SANITARIUM, BATON ROUGE

Internist	T. C. Paulsen, Baton Rouge
Surgeon	W. B. Chamberlin, Baton Rouge
Neuropsychiatrist	T. H. Pargen, Jackson
Ophthalmologist	Rufus Jackson, Baton Rouge
Orthopedist	T. Jeff McHugh, Baton Rouge
Pathologist	Brinsfield King, Baton Rouge
Radiologist	Lester J. Williams, Baton Rouge
Dentist	Harry J. Babin, Baton Rouge

BOARD #5

HEADQUARTERS—CHARITY HOSPITAL, LAFAYETTE

Internist	C. C. deGravelles, Chairman, New Iberia
Surgeon	O. P. Daly, Lafayette
Otolaryngologist	Jos. D. Martin, New Iberia
Ophthalmologist	L. B. Long, Lafayette
Neuropsychiatrist	L. A. Prejean, Lafayette
Orthopedist	Albert Tisdale, Secretary, Lafayette
Pathologist	C. E. Hamilton, Lafayette
Roentgenologist	John Miles, Lafayette
Dentist	James A. Comeaux, Lafayette

BOARD #6

HEADQUARTERS—ST. PATRICK HOSPITAL, LAKE CHARLES

Internist	J. D. Frazar, De Ridder
Surgeon	T. H. Watkins, Lake Charles
Otolaryngologist	O. W. Moss, Lake Charles
Ophthalmologist	D. C. Iles, Lake Charles
Neuropsychiatrist	S. F. Hatchette, Secretary, Lake Charles
Orthopedist	R. G. Holcombe, Lake Charles
Pathologist	L. A. Hebert, Chairman, Lake Charles
Roentgenologist	G. C. McKinney, Lake Charles
Dentist	A. W. Guillory, Lake Charles

BOARD #7

HEADQUARTERS—BAPTIST HOSPITAL, ALEXANDRIA

Internist	O. B. Owen, Alexandria
Surgeon	P. K. Rand, Alexandria
Otolaryngologist	B. M. Wilson, Alexandria
Ophthalmologist	N. T. Simmonds, Alexandria

Neuropsychiatrist.....M. S. Freiman, Pineville
Pathologist.....Ralph Lampert, Alexandria
Roentgenologist.....H. O. Barker, Alexandria
Dentist.....W. B. Barry, Alexandria

BOARD #8
HEADQUARTERS—ST. FRANCIS SANITARIUM, MONROE

Internist.....M. W. Hunter, Monroe
Surgeon.....J. Q. Graves, Monroe
Otolaryngologist & Ophthalmologist
P. L. Perot, Chairman, Monroe
Orthopedist.....Scott Hamilton, Secretary, Monroe
Neuropsychiatrist.....C. P. Gray, Monroe
Pathologist.....John Pracher, Monroe
Roentgenologist.....D. M. Moore, Monroe
Dentist.....S. A. Collins, Monroe

BOARD #9
HEADQUARTERS—CHARITY HOSPITAL, SHREVEPORT

Internist.....Sam Kerlin, Chairman, Shreveport
Surgeon.....Joe Heard, Shreveport
Otolaryngologist.....John T. Crebbin, Shreveport
Ophthalmologist.....John L. Scales, Shreveport
Neuropsychiatrist.....Dean Duncan, Shreveport
Orthopedist.....H. A. Durham, Shreveport
Pathologist.....W. R. Mathews, Secretary, Shreveport
Roentgenologist.....W. R. Harwell, Shreveport
Dentist.....F. M. Talbot, Shreveport

FARM SECURITY ADMINISTRATION

Mr. Steele T. Kennedy, Regional Health Specialist of the FSA has sent in the following report of parishes in which group medical projects are operating and the percentage of medical bills that were paid during the period between January 1 and January 30, 1940:

Bossier	100%	Ouachita	100%
DeSoto	97%	Pointe Coupee	100%
East Carroll	70%	Red River	84%
Evangeline	100%	Sabine	95%
Grant	96%	St. Helena)	
Jackson	74%	East Feliciana)	57.5%
Lafayette	100%	St. Martin	88%
LaSalle	90%	Webster	68%
Madison	41%	West Carroll	84%
Morehouse	71%	Winn	97%
Natchitoches	63%		

Note: Lafayette, Pointe Coupee, Webster, Madison, St. Martin, St. Helena, East Feliciana and Natchitoches parishes operated the full six months' period. The remaining parishes began operations since the first of the year and had been in operation from three to five months during the above reporting period.

SOUTHERN TUBERCULOSIS CONFERENCE

A very successful Southern Tuberculosis Conference was held in Monroe, Louisiana, October 21-23. This meeting was attended by men who are interested in the problems of tuberculosis from all over the South. The conference dealt not only with medical subjects but there was also a non-medical section in which the general problems of tuberculosis, where they touched the laity, were considered. There were speakers from points in the North and East as well as from the South. Appearing on the program were the following men from Louisiana: Drs. R. H. Frost, P. R. Kilmer, Julius Wilson, W. H. Perkins, who spoke at the general session on the subject "Types of Tuberculous Infection as a Means of Epidemicity"; Sydney Jacobs, who presented the subject "Negro Outpatient Pneumothorax," and Louis F. Knoepp. Dr. R. Alec Brown was Chairman of the Conference of State Directors of Tuberculosis Control.

HOSPITAL DIRECTORS' MEETING

There was conducted a ten-day postgraduate institute for superintendents and assistant superintendents of the South in New Orleans, beginning October 21. Participating in the program were such distinguished physicians as Dr. James A. Hamilton, president of the American College of Hospital Administrators, Dr. S. J. Hall, executive officer of the U. S. Marine Hospital, Dr. Leon S. Lippincott, superintendent of Vicksburg Sanitarium, Dr. R. C. Buerki, superintendent of the Wisconsin General Hospital, Dr. Malcolm T. MacEachern, associate director of the American College of Surgeons, as well as many other well-known hospital administrators and physicians.

NEWS ITEMS

Dr. W. J. Otis was made a councilor of the Southern Psychiatric Association at the recent meeting in Jacksonville, Florida.

Assistant Surgeon Francis J. Weber has been relieved from duty in New Orleans, and ordered to proceed to Columbus, Georgia, for duty as district health officer.

MENVILLE TO HEAD CHARITY HOSPITAL RADIOLOGY DEPARTMENT

Dr. Leon J. Menville, Professor of Radiology at Tulane, editor of "Radiology" and one of the best known radiologists in the country, has been selected as part-time head of the Department of Radiology of the Charity Hospital, New Orleans. The Board of Administrators at the hospital is to be congratulated on the selection of a man known nationally for his researches, studies and writings in his specialty.

GENERAL HOSPITAL TO BE FORMED AT LOUISIANA STATE UNIVERSITY

The Surgeon General at Washington has requested Dr. B. I. Burns, Dean of the School of Medicine, Louisiana State University, to organize a military general hospital. Dr. Urban Maes, head

of the Department of Surgery, will organize this hospital unit.

MILAM SUPERINTENDENT STATE HOSPITAL AT MONROE

Mr. J. E. Snee, Director of the Department of Institutions, has announced the appointment of Dr. D. T. Milam, of Monroe, as Superintendent of the E. A. Conway Charity Hospital. For the present, Dr. Milam will be honorary superintendent until the hospital is opened, expecting this event to take place in about six or eight months. Dr. Milam, a graduate of Tulane in 1922, is President of the Ouachita Parish Medical Society, Secretary of the Louisiana State Urological Society and is Regimental Surgeon of the 156th Infantry. His appointment should receive universal approbation.

AID TO BRITISH

Dr. Joseph Felsen, one of the Advisory Chairmen of the Medical and Surgical Supply Committee writes that the following supplies are needed by British units: Instruments and sterilizers; bandages and adhesive; drugs, including local antiseptics, cardiac and circulatory stimulants, sedatives and narcotics, sulfanilamide group, vitamin concentrates, iron preparations, drugs for subcutaneous or intravenous use, anti-diarrheal drugs, analgesics, antipyretics, cathartics, and food concentrates.

MATAS MEDAL

The Matas Vascular Surgery Award created by Mr. Mike S. Hart, in memory of his sister Miss Violet Hart, is to be awarded for the third time on November 14, 1940.

Under the terms of the fund created by Mr. Hart, the fund was to be administered by the Board of Administrators of the Tulane Educational Fund. It was Mr. Hart's request that a Committee of Award was to nominate the "North American Surgeon who has contributed outstanding work in Vascular Surgery." The Committee of Award selected by the family "shall be composed of three Surgeons, and the Surgeon occupying the Chair of Surgery in the School of Medicine, Tulane University." The family selected the Committee of which Dr. Emile Bloch, was Chairman, Dr. Lucian H. Landry, Dr. Isidore Cohn, and Dr. Alton Ochsner, the occupant of the Chair of Surgery, at Tulane University.

The first award was made on January 23, 1934 and Dr. Mont Reid, Professor of Surgery at the University of Cincinnati, was the recipient.

In making a selection of the recipient of the first award, the Committee considered not only the outstanding work on aneurysms which Dr. Reid had made, but they particularly wished to pay tribute to the outstanding work which he, in collaboration with Dr. Louis Herrmann, had done in their efforts to develop collateral circulation by means of passive vascular exercise.

Aside from Dr. Reid's original work he symbolized a liaison between the present and the past, the living bond of friendship between Dr. Matas, and his own contemporary the late Dr. William S. Halsted, who was Dr. Reid's teacher, chief, and friend. The Committee could not help taking cognizance of, and the opportunity to perpetuate as a memorial the relationship which existed between the two great pioneers in vascular surgery in the United States, Rudolph Matas and William S. Halsted.

The second award was made to Dr. Reynaldo dos Santos, of Lisbon, Portugal, in 1937.

In considering an available candidate for the award, the Committee with the approval and counsel of Dr. Matas, took cognizance of the epoch making contribution of the Portuguese School of Vascular Surgery, notably the work of dos Santos, Moniz, Carvalbo, and their associates. The committee further took cognizance of the epoch-making achievement of dos Santos, visualization of the abdominal aorta and the application of his method for visceral radiography. The Committee felt that this feat had opened up new fields to those interested in differential diagnosis of abdominal disease; therefore, the rules of the fund were suspended and the honor was conferred upon Dr. Reynaldo dos Santos.

In his citation of dos Santos, Dr. Matas stated: "dos Santos, is not only the father of aortography and of a new radio vascular method of visualizing the abdominal organs which he has brought to light, but he has expanded the use of aortography in its relations to the early diagnosis of infections of bone and still more by revealing the vascular structure and architecture of bone tumors in which the type of vascularity is of great importance in differentiating between the benign and the malignant growths. Perhaps even more striking are his radiograms of the arteries of the extremities in their relation to embolic or thrombotic obstruction, senile and pre-senile arteriosclerosis and especially aneurysms in which he has been a pioneer.

"We deem it a duty and an honor to confer upon him the Violet Hart Medal as the best token of our appreciation and admiration for his merit, and also, of our respect for his distinguished colleagues and associates of the great Portuguese school which he so worthily represents."

This, the third award of the Matas Vascular Surgery Medal, is made to Dr. Daniel Collier Elkin, of Atlanta, Georgia, the Joseph Brown Whitehead Professor of Surgery of Emory University in Atlanta. Dr. Elkin is a native of Kentucky and a Graduate of Yale University. His medical education was obtained at Emory University in Atlanta, from which he graduated in 1920. His surgical training was obtained at Peter Bent Brigham Hospital, in Boston, where he served successively as a Surgical House Officer, Assistant Resident Surgeon, and Resident Surgeon.

Dr. Elkin had the great privilege to serve under and be inspired by the late Harvey Cushing, dean of brain surgeons of the world.

In 1924, he returned to Atlanta and became connected with Emory University, where he taught anatomy, surgical pathology, and surgery until 1929, when he was made Professor of Surgery and Chief Surgeon to the Emory University Hospitals.

In 1939, the Whitehead Foundation endowed the Chair of Surgery to which he was appointed, and he now holds the title of Joseph Brown Whitehead Professor of Surgery. Dr. Elkin is a member of the American College of Surgeons, Southern Surgical Association, American Association for Thoracic Surgeons, Society of Clinical Surgery, and the American Surgical Association.

Since 1924, Dr. Elkin has published many papers on vascular surgery. His experience in the treatment of aneurysms and wounds of the heart has been unusually large.

Interest in diagnosis and treatment of wounds of the heart has stimulated his associates to such an extent that they are ever on the alert for these cases; consequently many patients are seen, diagnosed early and promptly treated. In 1939 he reported 22 heart wounds operated, with recovery of 50 per cent of the patients.

His most notable contribution has been his work on diagnosis and treatment of wounds of the heart. A recent notable achievement has been the successful treatment of an aneurysm of the abdominal aorta by ligation.

There are probably between 30 and 40 recorded cases in which the abdominal aorta has been ligated, of these not more than 10 or 12 in which the ligation has been done for an aneurysm of the aorta itself. The first successful ligation and cure of an aneurysm of the aorta by ligation was by Rudolph Matas, in whose honor the medal was created. Recently Dr. Bigger, of Richmond, Virginia, recorded the cure of an abdominal aortic aneurysm by the Matas aneurysmorrhaphy method.

Dr. Elkin has recently reported an abdominal aortic aneurysm operated by him in which he used cotton tape ligatures such as Dr. Matas used in his case in 1923. His patient is relieved of all symptoms and has returned to his active duties.

Dr. Elkin's work has commanded the attention, admiration, and respect of the surgical world.

In making the nomination for the award, the Committee salutes a Southern gentleman, a surgeon of note, a teacher worthy of his opportunity and a modest, unassuming student.

The Committee salutes Dr. Elkin.

We congratulate Dr. Elkin, not only on having been chosen because of his own merit to receive this reward, but because he is fortunate in being able to receive it directly from the hands of the master surgeon, the pioneer in modern vascular surgery, Rudolph Matas.

ISIDORE COHN.

CIVIL SERVICE OPENINGS

The Civil Service Commission announces that enough applications have been received to meet the prospective need for temporary and part-time civilian medical officers in connection with the Army expansion. Receipt of applications closed Monday, October 14.

The Commission calls attention to the fact, however, that there is an urgent need for medical officers and senior and associate medical officers to fill permanent positions in other agencies. Applications will be recevied until further notice. The positions pay from $3,200 to $4,600 a year. Fourteen specialized branches of medicine are included.

Full information and application forms for these examinations may be obtained at the office of the Secretary, Board of U. S. Civil Service Examiners at any first- or second-class post office, or from the U. S. Civil Service Commission, Washington, D. C., or from any of the Commissioner's district offices.

INFECTIOUS DISEASES IN LOUISIANA

The morbidity report of the Bureau of Epidemiology of the Louisiana State Board of Health for the week ending September 21 showed the following reportable diseases occurring in numbers greater than ten: 177 cases of syphilis, 49 of pulmonary tuberculosis, 30 of cancer, 29 of pneumonia, and 23 of typhoid fever. The typhoid fever patients were scattered throughout the state with not more than three cases occurring in any one parish, except in Pointe Coupee which had eight instances. It is regrettable that eight cases of poliomyelitis were reported, four from Caddo and the others respectively from Bienville, Calcasieu, DeSoto and Ouachita. During the same period a case of typhus fever was reported in each of these parishes: Iberia, Lafayette, Lafourche, Orleans, St. Martin, and Vermilion. For the thirty-ninth week of the year closing September 28, syphilis again led all reportable diseases with 129 instances. There were listed also 49 cases of pulmonary tuberculosis, 30 of cancer, 28 of gonorrhea, 24 of typhoid fever, 22 of malaria, 20 of pneumonia, and 11 of trachoma. This week again was characterized by the occurrence of several cases of poliomyelitis, Bienville, Franklin, Morehouse, and Red River each reporting one instance; Iberia and Orleans each reported two cases and Caddo four. Again this week typhoid fever was scattered throughout the state; no parish reported more than three cases except Lafayette with six. For the week which ended October 5, there were listed 160 cases of syphilis, 30 of cancer for the third consecutive week, 31 of pulmonary tuberculosis, 23 of pneumonia, 17 of gonorrhea, 11 of malaria, and 10 of typhoid fever. Four cases of poliomyelitis were listed this week, one each from Avoyelles, Claiborne, Sabine and Webster parishes. There were noted also six cases of typhus fever scattered throughout the state, while of the 10 reported cases of typhoid fever no more than two

came from any one parish. During the forty-first week of the year, ending October 12, there were reported 138 cases of syphilis, 36 of gonorrhea, 27 each of cancer, pneumonia, and pulmonary tuberculosis, and 19 of malaria. This week the typhoid fever cases were reduced to eight with only one parish reporting more than one case, and in this instance but two. There were three cases of poliomyelitis and seven of typhus fever.

HEALTH OF NEW ORLEANS

The Bureau of the Census, U. S. Department of Commerce, reported 109 deaths in the City of New Orleans for the week ending September 14 as contrasted with 118 the previous week. These deaths were divided racially 61 white and 48 colored; nine of the deaths were in children under one year of age. A very sharp increase in the number of deaths occurred in the week of September 21. Of the 148 deaths, 90 were white and 58 negro; 19 were in children under one year of age. The marked increase in the number of deaths for the week of September 21 was followed by a sharp fall during the next week which closed September 28, there being 112 citizens who died in this particular week. The number of deaths was divided almost equally between the two races and there were 10 infant deaths. The death incidence in New Orleans for the past four weeks has fluctuated rather markedly. For the week which closed October 5, the deaths went up sharply, 153 people expiring this week. There was little change in the negro death rate, but the number of white deaths was thirty-six more than the previous week. In the infant death column appeared 13 deaths, seven white and six negro babies.

WOMAN'S AUXILIARY
Louisiana State Medical Society

President—Mrs. Roy Carl Young, Covington.

President-elect—Mrs. Aynaud Hébert, New Orleans.

First Vice-president—Mrs. Joseph E. Heard, Shreveport.

Second Vice-president—Mrs. W. A. Ellender, Houma.

Third Vice-president—Mrs. M. H. Foster, Alexandria.

Fourth Vice-president—Mrs. C. P. Gray, Monroe.

Treasurer—Mrs. M. C. Wiginton, Hammond.

Recording Secretary—Mrs. P. A. Donaldson, Reserve.

Corresponding Secretary—Mrs. Herbert Cannon, Covington.

NEWS OF LOCAL GROUPS
Orleans Parish

The Woman's Auxiliary to the Orleans Parish Medical Society held its first meeting and reception Wednesday, October 9, at 3:00 p. m. at the Orleans Club. The meeting was called to order promptly by our president, Mrs. Aynaud Hébert, the ladies, in their new fall gayness being eager to hear the names of the members appointed to the committee for nominating the president-elect. Committee chairmen gave interesting reports. New members of the auxiliary were introduced and cordially received.

Following the usual order of business, Dr. Mildred Christian, Assistant Professor of English at Newcomb College, reviewed "How Green Is My Valley."

The tea table was lovely with a centerpiece of chrysanthemums; Mrs. Andrew Friedrichs and Mrs. Jonas W. Rosenthal presided. Among the gracious hostesses for the afternoon were Mesdames Charles Wood, Solon Wilson, Charles Williams, Charles Wheeler, J. O. Weilbaecher, Jr., Arthur Weil, William Wagner, Fred Vaughan, Curtis Tyrone, R. W. Todd, I. Tedesco, J. G. Stulb, L. H. Strug, Wilbur Smith, J. L. Wilson, R. M. Willoughby, M. C. Wilensky, H. L. Weinberger, J. S. Webb, T. J. Walshe, E. B. Vickery, Randolph Unsworth, W. G. Troescher, N. F. Thiberge, J. W. Tedder, Jack Strange, John Smythe, Lee Schlesinger.

MRS. DONOVAN C. BROWNE,
Publicity Chairman.

SECOND DISTRICT

The regular monthly meeting of the Auxiliary to the Second District Medical Society was held October 15, at 2:30 p. m. at the home of Mrs. J. Earle Clayton, of Norco.

Members of the auxiliary have been busy during the summer months making Red Cross refugee garments and layettes, and collecting scrap books for distribution to the hospitals.

MRS. P. A. DONALDSON,
Publicity Chairman.

Respectfully submitted,
MRS. JONAS W. ROSENTHAL,
Press and Publicity Chairman.

BOOK REVIEWS

Virus and Rickettsial Diseases: A symposium held at the Harvard School of Public Health, June, 1939. Cambridge, Harvard University Press, 1940. Pp. 907. Price $6.50.

In June, 1939 a symposium on the virus and rickettsial diseases was held at Harvard School of Public Health. The present volume contains the various papers that were presented at the symposium. Without exception the authors are men very well qualified to discuss the particular subjects assigned to them. There can be no question as to the authenticity of the material and

the firsthand knowledge of the writers concerning those things which they presented last year.

Space will not permit a review of each of the papers. Suffice it to say that as in any symposium there are naturally some variations in the presentations, but without in any way drawing distinctions it can be written that all of these are good but a few of the presentations are a bit better.

A man interested in virus and rickettsial diseases will need this compilation as a reference book. To the man who is unfamiliar with the virus and rickettsial diseases the book will be of tremendous assistance because it not only deals with the specific diseases but also it discusses the general problems that have to do with the virus and with the rickettsial disorders. The whole work is a credit to the Harvard School of Public Health.

J. H. MUSSER, M. D.

Gynecologic Operations and Their Topographic-anatomic Fundamentals: By Heinrich Martius. Chicago, S. B. Debour, 1939. Pp. 486. Price $10.00.

This is a most complete book on the fundamentals of the anatomy of gynecologic operations. It does not deal with pre- or postoperative care.

The contents are divided into six chapters each fully illustrated. Incidentally the drawings are well done, being excellently descriptive and the note under each illustration well narrated.

The operative methods do not differ from our own except for the chapter on curettage of the uterus where the use of the laminaria stem is depicted; however the translator has a footnote wherever a difference occurs.

This volume should be especially useful for the resident who chooses this specialty and a boon for the specialist who wishes to refer quickly to some procedure.

The chapter on vesicovaginal fistula deserves special praise for it brings forth the essentials in the repair of these defects. Having done a lot of work in this field, I was surprised to find that my clinical work so closely coincides with the author and I would have been saved the effort of practical experience had I chanced upon this volume previous to my efforts.

To continue on would only further whet the appetite for the perusal of this book. May I, however, warn the novice that pre- and postoperative care is sometimes more important than the operation.

M. LYON STADIEM, M. D.

Anatomy and Physiology: By Frederic T. Jung, B. S., Ph. D., M. D.; Anna Ruth Benjamin, B. A., M. D., and Elizabeth Carpenter Earle, B. A., R. N. Philadelphia, F. A. Davis Company, 1939. Pp. 637. Price $3.50.

This is a better than average textbook on anatomy and physiology designed particularly for use in teaching nurses. The systems of the body are discussed separately from the anatomic and the physiologic point of view and the authors have successfully steered a middle course between brevity and fullness. Each chapter is preceded by a preview and is broken down into integral topics. Each topic has its own preview and many correlative applications are given in connection with the discussions of the topics. At the end of each chapter there are suggestions for laboratory practice and study projects. The text is well printed on a two column page and is particularly well illustrated. Deserving special comment are the striking photographs of a living model showing certain muscles which are more often involved in nursing practices.

In attempting to simplify the presentation of the material, it seems to the reviewer that the authors have in some instances broken up the material into units which are too small, since, in these instances, the preview and summary occupy almost as much space as the descriptive material presented. The text would be improved by cross references as, for example, in the case of the electrocardiogram which is referred to on pages 66, 191, 203 and 289 but is not described until page 293.

H. S. MAYERSON, PH. D.

Electrocardiographic Patterns: By Arlie R. Barnes, M. D. Baltimore, Charles C. Thomas, 1940. Pp. 197. Price $5.00.

This book passes over the usual consideration of arrhythmias and emphasizes only the electrocardiographic patterns indicative of myocardial disease. The changes of importance in diagnosis are systematically covered with stress given, as it should be, to the effects of coronary disease and its resultants, particularly myocardial infarction. Acute and chronic ventricular strain, both left and right sided, is discussed. The effects on the electrocardiogram of such conditions as pericarditis, drugs, metabolic disorders, and infections, are clearly outlined. In each instance evidence from the literature is correlated with the author's own experiences and a brief summary made of the important findings. Descriptive cases add much to the discussion, and the illustrative tracings are well chosen to demonstrate clearly the points in question.

Chest leads, including normal standards, are taken up and discussed in detail. Comparison of tracings obtained by the various methods of lead connections is given in the final chapter but throughout the text the author uses the old scheme which gives curves upside down to the present standards. This is regrettable since standardization of chest leads by a committee of the American Heart Association has completely outmoded the

tracings as represented throughout the text. This feature of the book will cause much confusion, particularly to those not well acquainted with the fundamentals of electrocardiography. However, the book supplies a long felt need and represents a valuable analysis and compilation of our knowledge in a most important field of electrocardiography.

WM. A. SODEMAN, M. D.

Life and Letters of F. H. Garrison: By S. R. Kagan, M. D. Boston, Medico-historical Press, 1938. Pp. 287; por. Price $3.00.

Fielding Hudson Garrison (1870-1935) was a great medical historian and bibliographer. His "Introduction to the History of Medicine" has remained a standard reference work for more than a quarter of a century. It is not only a mine of historical information, but a beautifully written book laden with many references which give indication of Garrison's broad culture, background, and his love of music as well as his great store of historical information.

Kagan's life of Garrison is a disappointment, being written in a slipshod fashion. It not only fails to leave with one a clear picture of Garrison, but totally lacks any attempt to study the factors that influenced the development of Garrison's attitudes and ideals. One can only hope that a more sympathetic, understanding and thorough study of Garrison will some day appear. Garrison could and should be the subject of a biography of the quality of Cushing's "Osler."

The letters of Garrison, however, rescue the book, and make it worth the price of purchase. In a day when letter writing as an art had largely declined, and unaided by the convenience of a secretary, Garrison wrote numerous and exquisite letters. He thinks freely and clearly on paper. His thoughts roam the universe and many passages of great beauty as well as innumerable items of information cram full the pages. Garrison's compare favorably with the best in American letters; they have many of the qualities and remind one of those of William James and Henry Adams. The book is recommended with the suggestion that the reader skip the "Life" and read the "Letters" of Garrison in order to obtain not only the pleasure of reading a group of splendid letters, but in order to secure a picture of Garrison as he so ably reveals himself in his letters.

B. BERNARD WEINSTEIN, M. D.

The Surgery of Injury and Plastic Repair: By Samuel Foman, Ph. D., M. D. Baltimore, The Williams and Wilkins Co., 1939. Pp. 1409. Price $15.00.

This comprehensive volume is encyclopedic in its development. Specific consideration of essentially all phases of plastic surgery is accomplished. The entire book is profusely illustrated and is an excellent source of reference for one seeking information relative to a specific phase of plastic surgery. Due to the comprehensive inclusion of detailed procedures, the descriptions of technic, and the impossibility of assuming evaluations of technic, the book will be of considerably more interest to the specialist than to the student, the general practitioner, or general surgeon.

NEAL OWENS, M. D.

The Diagnosis and Treatment of Pulmonary Tuberculosis: By John B. Hawes, 2nd, M. D., and Moses J. Stone, M. D. Philadelphia, Lea and Febiger, 1940. Pp. 260. Price $2.75.

The second edition of this useful little book has been brought up to the minute by the junior author. The elimination of all "frills" which marked the original work has been carried further. Condensation of many of the chapters has made it possible to add more illustrations, new material on collapse therapy, and new chapters on allergy-immunity and mental aspects of tuberculosis without increasing the bulk or the expense of the book. The bibliographic material appended to each chapter is excellent.

This book is highly to be recommended to physicians and medical students as the most up-to-date and compact treatise obtainable on the subject of tuberculosis.

JULIUS LANE WILSON, M. D.

PUBLICATIONS RECEIVED

Harvard University Press, Cambridge, Mass.: Human Nature in the Light of Psychopathology, by Kurt Goldstein.

Rockefeller Foundation, New York City: International Health Division Annual Report, 1939.

W. B. Saunders Company, Philadelphia: Office Urology, by P. S. Pelouze, M. D.

The Williams and Wilkins Company, Baltimore: Leprosy, by Sir Leonard Rogers, K.C.S.I., C.I.E., M.D., F.R.C.P., F.R.C.S., F.R.S., I.M.S. (Retired), and Ernest Muir, C.I.E., M.D., F.R.C.S. Edinburgh. Clinical Urology, by Oswald Swinney Lowsley, A.B., M.D., F.A.C.S., and Thomas Joseph Kirwin, M.A., M.S., M.D., F.A.C.S. (2 v.)

The Year Book Publishers, Inc., Chicago: Obstetrics in General Practice, by J. P. Greenhill, B.S., M.D., F.A.C.S. Vitamin Therapy in General Practice, by Edgar S. Gordon, M.D., M.A., and Elmer L. Sevringhaus, M.D., F.A.C.P. The 1940 Year Book of Public Health, edited by J. C. Geiger, M.D., Dr. P.H.

Lea & Febiger, Philadelphia: The Treatment of Diabetes Mellitus, by Elliott P. Joslin, A.M., M.D., Sc.D., Howard F. Root, M.D., Priscilla White, M.D., and Alexander Marble, M.D. Congenital Syphilis, by Charles C. Dennie, B.S., M.D., and Sidney F. Pakula, B.S., M.D.